# THE LOWEST HEAVEN

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# Annotation

We have adorned the lowest heaven with an ornament, the planets… A string of murders on Venus. Saturn's impossible forest. Voyager I's message to the stars◦– returned in kind. Edible sunlight. The Lowest Heaven collects seventeen astonishing, never-before-published stories from award-winning authors and provocative new literary voices, each inspired by a body in the solar system, and features extraordinary images drawn from the archives of the Royal Observatory Greenwich. Contributors include Sophia McDougall, Alastair Reynolds, Archie Black, Maria Dahvana Headley, Adam Roberts, Simon Morden, E. J. Swift, Jon Courtenay Grimwood, Mark Charan Newton, Kaaron Warren, Lavie Tidhar, Esther Saxey, David Bryher, S. L. Grey, Kameron Hurley, Matt Jones and James Smythe. The Lowest Heaven is introduced by Dr. Marek Kukula, Public Astronomer at the Royal Observatory, with a cover designed by award-winning artist Joey Hi-Fi. Contains Sophia McDougall's "Golden Apple", a finalist for the British Fantasy Awards, E. J. Swift's "Saga's Children", a finalist for the BSFA and Kaaron Warren's "Air, Water and the Grove", finalist for the Ditmar and winner of the Aurealis Awards. This is the solar system as you've never seen it before.


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**THE LOWEST HEAVEN**
**EDITORS**
**Anne C. Perry & Jared Shurin**
**IMAGES**
**National Maritime Museum**
**COVER**
**Joey Hi-Fi**

*To curiosity*
*(big and little c)*

# INTRODUCTION

It should come as no surprise that the relationship between astronomy and science fiction has always been a close one. After all, even in the Space Age, the nearest most of us will get to experiencing the wonders of deep space for ourselves is through the medium of books, films and television (and perhaps, if we're lucky, virtual reality too).

Modern astronomy is characterised by vast distances and immense spans of time which challenge the imagination of even the most hardened cosmologist. Douglas Adams perhaps came closest to a concise description of the true scale of the Universe when he wrote "Space is big", but such enormous numbers are almost impossible to grasp in any meaningful way beyond the purely mathematical. However, science fiction can give us a way to make at least some sense out of those mind-blowing figures. By setting human stories within that immense canvas writers can help us to see ourselves as part of the wider cosmos, and perhaps give us an inkling of what that might actually mean. No wonder that many of today's professional astronomers can trace their interest, at least in part, to an early encounter with science fiction.

The connection between science fact and science fiction has never been more pervasive than it is today. The visual language of astronomy is everywhere in contemporary science fiction, from book covers to the backdrops of films and television shows. Vistas from the Hubble Space Telescope and NASA's Cassini probe have inspired the scenery for *Star Trek, Battlestar Galactica* and *Doctor Who*, and with their enormous popularity these shows and movies bring astronomical imagery to a much wider audience. Artistic licence even allows them to ignore the fact that that the original images have been enhanced and manipulated, and rarely show the Universe as it would appear to human eyes.

The connection works both ways. As yesterday's science fiction becomes today's science fact it can sometimes seem as though we live in a science-fictional universe. Above our heads, Arthur C. Clarke's geostationary satellites encircle the equator, while the imprints of human boots still mark the surface of the Moon. Further out, a fleet of robot craft explores the distant reaches of the Solar System and rovers trundle across the dusty landscapes of Mars. And for the first time in human history we can now look up at a night sky full of stars and know for sure that almost every one of them is a sun with its own system of planets orbiting around it.

Meanwhile, science fiction itself is colonising the Solar System.

There's a Martian crater called Asimov and an asteroid named 25924 Douglasadams (not to mention 18610 Arthurdent). The icy plains of Saturn's giant moon Titan are being named after fictional planets from Frank Herbert's *Dune* novels, its mountains for the peaks and ranges of Tolkien's Middle Earth. And in 2012 the site where NASA's Curiosity rover touched down on Mars was christened Bradbury Landing in honour of the writer whose *Martian Chronicles* inspired generations of scientists and engineers to set their sights on the Red Planet.

Science fiction also has the luxury of being able to pursue an idea just because it's interesting, fun or beautiful, even when science has abandoned it and moved on. In the 1890s, astronomer Percival Lowell's Martian canals were the subject of serious debate, while H. G. Wells' "intellects vast and cool and unsympathetic" were not entirely inconsistent with the latest thinking in planetary science. Within a few years the Royal Observatory's E. Walter Maunder had shown that the canals of Mars were an optical illusion, and new observations confirmed the Red Planet's freezing temperatures and a flimsy atmosphere devoid of oxygen. Even so, the idea of ancient Martians irrigating the deserts of a dying world continued to inspire writers and artists well into the twentieth century. Today, these unscientific fictions, inspired by astronomy but not constrained by it, still say something important about our place in the Universe. Ray Bradbury's stories of Mars, written in the 1940s, retain their power because they capture something about the human urge to explore beyond our home planet, and our inability to leave our foibles and failings behind us. This would be true whether or not his poetic evocations of the Martian landscape resembled the high-definition images beamed back by NASA's Curiosity rover (although, eerily, they do).

This anthology of contemporary science fiction stories is being published to coincide with the exhibition *Visions of the Universe* at Royal Museums Greenwich. Using just over a hundred astronomical photographs and drawings the exhibition sets out to show how advances in imaging technology have repeatedly transformed our understanding of the Universe and our own place within it. But, as well as explaining the history and the science behind the images, Visions of the Universe deliberately presents them as beautiful and awe-inspiring objects in their own right. Like the stories in this book, it encourages a very human response to scientific data.

*The Lowest Heaven* demonstrates what happens when a group of today's most imaginative writers are let loose in the gigantic playground of the Solar System. Some of these stories use cutting-edge science to give us a plausible glimpse of what the future might have in store. Others take their inspiration from the rich history of speculation, legend and myth with which past generations have tried

to make sense of the cosmos.

Each story is illustrated by an image selected from the historical collections of Royal Museums Greenwich. Sometimes the connection is obvious, in other cases more oblique, perhaps inspired by a mood or a line of dialogue. The wonderfully retro cover artwork, specially commissioned from the artist Joey Hi-Fi, is inspired by another object from the Museum's collection: a wall hanging showing the orbits of the planets and other Solar System bodies. Produced in the 1850s by the Working Men's Educational Union it was designed to explain the latest ideas about the cosmos to an audience eager for new ideas. It's an attempt to encapsulate what humans have discovered about the cosmos and their place in it. Like the stories in this book, it makes us think again about what it means to be alive in an astonishing, beautiful and sometimes frightening universe.

*Marek Kukula*

*Public Astronomer*

Royal Observatory Greenwich (part of Royal Museums Greenwich)

May 2013

*The sunlight shone scarlet through her lips and cheeks, illuminating the lacework of veins like bare trees against a sunset.*

*One of a set of hand-painted magic lantern slides depicting sunspots and other solar activity. These were designed by the photographers and slide-manufacturers York & Son to accompany a lecture on the Sun. (c1880)*

# GOLDEN APPLE
## SOPHIA McDOUGALL

*"Mother, give me the sun"*

*Ghosts, Henrik Ibsen*

The process of transforming sunlight into a solid object had been complete about a month when we broke into the lab and stole as much as we could carry.

Carrying it was an issue, actually◦– obviously we were fairly sure it wouldn't weigh much. But what do you carry sunlight in? Some sort of vacuum flask seemed appropriate. We didn't want the sunlight to leak, or get contaminated. But would it die, somehow, if we shut it up in the dark?

In the end we used Tupperware and a rucksack.

For what it's worth: we wouldn't have stolen the solidified light if we'd had any other options or had not been at the very end of our rope. We would have paid for it if we could. We've become quite good at raising money, even while never having close to enough: we've raised almost two hundred thousand over the last few years for projects that had seemed saner but hadn't done us any good in the end. We were up against the clock. We knew we weren't thinking very clearly but we didn't care, we knew we might be messing up (though not how badly) and we didn't care about that either; in fact, by this point, we didn't even really care about each other, despite the fact we were barely having full conversations with anyone else.

It's quite liberating. The not caring.

It was a long drive to the lab but Jan and I had nothing to talk about in the car. We'd agreed beforehand that if it came to it, we'd both deny she knew anything about it; if at all possible we'd see to it I'd go to prison so there'd be someone to look after Daisy. I had no particular feelings about this other than mild guilt that my end of the bargain seemed easier.

Jan had bought us convincing replica guns, and by then it wasn't so much that we objected to real ones as that we didn't know how to get them and were afraid of getting caught before we could get hold of the sunlight. I am glad about that, now, we didn't have real guns; things might have gone worse; people in our state of mind shouldn't have guns. Not that we felt bad. In fact, I felt better than I had for years, and I say we weren't thinking clearly but it felt clear, like all the horror and exhaustion and rage was washing out of me at last, and

I was filling up with light, with light, with light.

To be doing something, you know?

To feel like it was going to be over?

It was a clear night, but it had been raining for days before, and as we broke clear of the trees and began our sprint across the field, the ground was like crude oil underfoot. I slipped right over once and Jan gave me a hand up in the kind of perfectly synchronised, perfectly impersonal way one assassin might help another. Didn't look at my face, or at anything but the low white building ahead.

It shone worryingly bright; the moon was full, and that rhyme I used to sing Daisy came into my head: *Girls and boys come out to play, the moon is shining as bright as day* and while I was giving Jan a leg-up over the wall part of my brain got a little lost in how it's really all sunlight, hurling through space, bouncing off cold stone, raining down on the wet grass, sunlight trapped for years and at last released in the lamps above the laboratory's little car park, and it was sunlight powering my muscles to lift Jan and then myself, sunlight squeezing and releasing our lungs and hearts.

I'd been thinking so much about light recently, you see.

Jan spoke for the first time in hours: "We're leaving footprints," she whispered. "We're going to track this mud all over the floors. They'll be able to get a lot of information from that."

"Doesn't matter," I said.

Jan only paused for a second. "No," she agreed, "it doesn't."

"We'll dump the shoes later," I said, but she was already tramping on ahead through the mud, and didn't answer, and I knew she wasn't even thinking about it any more.

We weren't particularly sophisticated about it. We just bashed in a window and of course alarms started screaming. We'd known that would happen but I couldn't help getting a little jumpy, and this is why I say it's just as well our guns weren't real because a security guard found us not long after that. And while Jan was aiming her fake pistol at him and shouting, I had trouble not breaking down in giggles because it was so *easy*, and I kept expecting it to be harder; I kept thinking he'd realise the guns weren't real and we weren't actually breaking into the lab and handcuffing a man to a chair, we weren't the sort of people who do things like that.

Jan didn't seem to have any trouble keeping a straight face though, as far as you could tell through the balaclava; she pressed her gun against the man's temple and he *shook*, he was so *scared* of tiny Jan and used-up, middle-aged me, and I stopped finding it funny and thought good, he should be. And I stopped thinking we weren't the

sort of people who would do this; we were, and that was fine, perfect. “Where’s the light?” I barked in his ear. “You know what we want; where’s the light?”

So he told us, and where the key safe was, and he wasn’t lying about it (why should he? Why risk his life to protect an experiment?) so we stuffed a gag in his mouth and ran through the dark corridors, up a flight of stairs to the right room. Couldn’t get the keys to work for ages, metal turning slippery in our shaking hands with sweat. Opened the door.

There in the dark was the sunlight.

Jan had been the one to do most of the research; I think the scientists wanted the solid light for some kind of new fuel, (which was what we wanted it for too, of course) but I don’t know. They’d coaxed it into being on microscopic lattices under funnels of mirrors, I remember that. It was about persuading photons to act like electrons, to repel each other.

Maybe it was actually a weapon? Maybe all this would’ve happened anyway.

Each globe of light was gold and white and perfect, like a tiny sun or a huge pearl. Each about the size of my two fists they hung suspended within columns of glass, held in place, I think, by magnetic fields. I pulled open the port at the top of the nearest tube and the light sank slowly to the bottom like a wax in a lava-lamp. It quivered and warped a bit as it settled down, already a little ruined, but still there.

“Quick, get it out,” said Jan, voice jagged with desperation. I reached down into the tube and grasped the light.

What did it feel like? Spongy, slippery, without being wet; hot but not burning through my glove. Bits of it fizzed away as I touched it, escaped into little streaks of almost-normal light in the air, and we got worried it would dissipate completely, so we set to grabbing the light out of the tubes and loading it into our Tupperware.

We didn’t take it all but we did take most of it.

“I am sorry about this,” said Jan almost gently to the guard back in the office we’d broken into. “We had to.”

When we got home we didn’t so much as take off our coats, just ripped off the balaclavas and ran straight up the stairs. We didn’t like to charge into the room in the middle of the night, normally we tiptoed around it, but we were too scared to wait until morning, in case the police came before then or in case the sunlight wouldn’t last that long, before we’d tried.

We didn’t turn on the lights. The captured sunlight lit the room

enough. And yet you could barely see there was anyone lying in the bed. The duvets piled over her erased all trace of her body, as surely as clay. Just the little skull on the pillow, raw within the taut casing of skin, the tangle of limp, dry hair. As always I held my breath until I could see the faint, faint movement of hers.

Sometimes I'd look at Daisy and all the ready-made words they use for dead girls would nearly choke me. Bubbly. Special. Princess. Awful, awful words, that get you the exact opposite of what they're begging the walled-off world for: *please don't just think of a corpse, please don't think of this one photograph, please think of a person.*

She never used to feel the cold at all. She used to like to stay outside as long as it was light and was baffled by the idea she ought to have anything on her arms. When she was seven she showed a slightly worrying interest in wounds and dead animals, but grew out of it. She was good at algebra. She could run fast but was hopeless at any sport involving catching or throwing. When she was eleven she found it essential to know her own exact favourite colour, considering that an answer as imprecise as "blue" showed a lack of spirit and self-knowledge. She collected colour cards from a paint shop, studied them solemnly for days and informed us at last that the chosen shade was *Majorelle Blue*. She began to lecture us on environmentalism but she never remembered to turn off the bathroom light. At fourteen she was still planning to live in a house with every room painted Majorelle blue, with a wooden bed painted lemon yellow. That same year she redesigned her own signature into an artfully elaborate logo for when she was famous. When she was fifteen her best friend gave her a silver necklace shaped like a daisy chain and Daisy never took it off if she could help it (it couldn't have been cheap, that necklace, but that was the year Daisy's illness became something more than an inconvenience). She made frequent mention of a redheaded boy in the year ahead of her while denying she liked him. She had, in my view as I had in hers, appalling taste in music.

She'd celebrated her sixteenth birthday in the bed she now lay in, weakly puffing out a single candle we'd stuck into a bar of cinnamon scented soap, cake being out of the question. The last week before we stole the light, she'd barely opened her eyes.

Jan dodged around the IV stand and sat down on the bed. Daisy moaned quietly and turned her head away from the light. Jan got one arm under her head and propped her up– she wasn't hard to lift. The blankets slipped down her corrugated chest, resting on her tender, slightly swollen stomach, and releasing a drift of her sweet ammonia scent.

I opened the first tub and handed it to Jan. The light scoured the poor remnants of Daisy's face, the red chapped skin around her lips

and nostrils, the flint-edged shadows under cheekbones and eyebrows. Within the pitiless caverns of her skull, her eyes winced open.

"Daisy," I said.

I got round to the other side of the bed, and picked up my daughter's hand. It felt like a little pile of kindling in mine. Her skin was papery-dry and cold, always so cold.

"Daisy," whispered Jan, "open your mouth, there's a good girl."

Daisy blinked up at us emptily. Her forehead creased a little in pain, and her eyes sank closed again. I knew her bones hurt constantly, the bed was never soft enough to cushion them from their own small weight. But she didn't protest.

Obediently, she parted her lips and Jan slipped the first sliver of sunlight inside.

I suppose, if I could, I'd have to change what I've done. It's useless to say that now, and doubly so because I can't really imagine doing it differently. I know we did wrong, and I should feel worse about it, but I can't do anything about that.

But I do feel guilty when I think of her swallowing the light. We should have told her what we were doing. We should have asked. She wouldn't, before, have been so docile, so vacantly trusting. She would have wanted to know what on earth we were putting in her mouth.

The first word she ever said was "no."

The sunlight shone scarlet through her lips and cheeks, illuminating the lacework of veins like bare trees against a sunset. Her throat glowed a softer rose as the sunlight slid down, fading to a faint ember gleaming through the wall of her chest, then vanishing.

Jan stroked her hair and crooned to her and reached for the next morsel of light.

The police came at dawn three days later. They leaned on the doorbell rather than knocking the door in, which I suppose we should have been grateful for, and piled into our kitchen in what seemed to us unreasonably large numbers. They looked faintly awkward, full of energy for pushing people around and turning over furniture, but not quite sure if that was allowed.

"Jan didn't have anything to do with it," I said, stupidly.

"It was some other five-foot-two female in possession of a firearm, was it?" asked the Inspector sourly. "Listen, you can both make it easier on yourselves by telling us what you've done with that light."

There wasn't any left. We'd fed Daisy all of it. We didn't say anything.

"I know you've got a sick daughter," said the Inspector, "so I'd like to do this nicely. It'd be nice if you'd get dressed and come down to the station without making a lot of fuss."

"I can't," said Jan. "Someone's got to look after our daughter."

"You can ring a neighbour from the station."

"No, no, they won't know what to do, what if she gets worse while I'm gone…"

One of the police women looked past me at something and caught a breath; the others followed her gaze and everyone went quiet. Daisy, soundless on bare, emaciated feet, had come down the stairs into the kitchen doorway. I felt a spasm of ridiculous rage. They had the nerve to wince at the sight of her, they dared to think she looked bad now? She was walking, she wasn't in pain.

Daisy beamed at everyone. "It's all right," she said. "I don't need looking after."

Her skin was warm to the touch when I hugged her goodbye. Her eyes shone.

I left her blithely making the police officers a cup of tea.

"She couldn't absorb anything from food," I told them. I found it wasn't at all hard to explain, it was as if I'd been rehearsing for ages. Distantly, I imagined Jan in some other interview room, saying the same words, in perfect unison. "It's a very extreme and very intractable form of Coeliac; at least, that's the closest anyone's been able to get to a name for it. Whatever it is, she's the youngest case, the worst case. At first it was just… she couldn't have bread. If she did she'd be sick for ages. Fine. We cut everything out. We were so careful. But it didn't work. The villi◦– the little things like hairs in your gut◦– hers are all wrecked. There was nothing we could feed her that didn't make it worse. She was losing her sight. She was starving to death, in front of us. The most basic thing you're supposed to do for your child, feed them, and we couldn't."

"You're in a horrible situation," said the inspector. "But you're going to have to explain how that led to armed robbery. You're not disputing it did, at this point, I take it?"

"I'm very sorry about the security guard. Please tell him we're sorry we frightened him. But what would you do if it was your daughter?"

They boggled at me and sucked their teeth. "But your idea was to *feed* her this stuff?"

"Yes."

"But for God's sake, Mr. Whitton, you had no way of knowing it wasn't toxic."

"She was dying. She was in pain. There was nothing else, surely you can understand that◦– nothing else we could even try. We couldn't bear not even *trying*."

They both pulled faces. The sergeant said: "Your daughter can't…

*photosynthesise*."

"She's better." Tears spilled suddenly down my cheeks; I didn't try to stop them. "You saw her. She's so much better, you didn't see how bad she was before. The difference◦– you wouldn't believe it."

"Do you know how we got the idea?" I said, "Jan came downstairs and said 'Oh God, I can see through her.' She'd been getting Daisy out of bed and the light was pouring in through the window across her foot, and her foot was *glowing*, like a lamp. The light was *in* her blood. And we thought, all the energy in food comes from sunlight, so, maybe if it would *stay*…"

I could hear the anguish in my own voice. It was all completely real of course◦– but we were also very good at working sympathy by now, from all that fundraising. When desperation is the only resource you make the most of it.

It didn't get us out of being charged or having to spend a night in the cells. It did get me a cup of tea and a phone-call.

It rang for a long time and I began to panic the way I hadn't when they'd told me how serious replica firearms offences were.

Then at last she answered. "Daisy– Daisy, how are you feeling?"

There was an odd little pause before she answered, not as if she was hesitating but as if the call was. "I'm fine, Dad." God, her voice was so strong, so normal, so cheerful.

"It looks like we're stuck in here overnight, love, but we'll get it sorted out tomorrow. I promise it'll it'll be all right."

"I know," she said, airily. "I've already told Mum."

"What have you been doing?"

"Standing," said Daisy.

"Standing?" I was briefly baffled but, when I thought about it, delighted. "It's so good to have you on your feet."

"I've been standing in the garden," said Daisy.

Our tragic situation and haunted articulacy served us well with the judge and we were bailed the next afternoon. The lawyer thought we'd probably get off pretty lightly so long as we could keep it up and didn't get into any more trouble.

I didn't really know how to think about any of this. We weren't used to thinking in the future tense.

We drove home without speaking, nothing to say to each other, not needing to. It was taking everything I had not to go over the speed limit, in any case.

The house was unlit and felt so quiet as we entered that my heart cramped again in terror.

Jan called up the stairs, "Daisy?"

Then we saw that there was a light on in the house after all; a

dim, amber-pink glow, like a child's night-light, or a Jack-o'-Lantern.

Daisy was standing in the living room. She was still wearing the nightdress we'd last seen her in. For a moment I began to be angry◦– what the hell was Emma from next door thinking, leaving her alone, not even getting her dressed?

Beside me, Jan gasped.

The light was coming from under Daisy's skin. Light padded the cruel spaces between her ribs, limned the bones of her limbs, glowed softly from between her vertebrae.

She looking out of the window. She was so still she might have been there for hours. She didn't, for several long seconds, seem to notice we were there. Then she looked at us. The light was a faint warm shimmer in the sparse flesh of her cheeks, the hollows of her throat. She smiled.

The light was noticeably brighter by the time we got her to hospital. Her fingers were like filaments. Her skull was a hot coal.

One of the physicists from the lab we'd robbed came to see what we'd done. Jan glowered defensively at her as if she was somehow the one to wrong us. The woman was too fascinated by Daisy to notice. She didn't have, or didn't feel the need to exercise, the capacity for masking astonishment that the doctors had. She clapped a hand to her mouth at the sight of our daughter and whispered "*God.*"

Daisy didn't mind. Daisy, who used to whine heartily about being poked and prodded by doctors, who always used to look away when they stuck her with needles, didn't so much as wince as they drew vial after vial of glowing blood; just sat and smiled gently into space as if she didn't feel it.

Or stood and smiled, rather. She'd sit down when asked to, but with an air of faint puzzlement, and when left alone she'd quietly rise again like a helium balloon that had been briefly held down. She'd stand, motionless, silent unless spoken to. (Sometimes unless spoken to several times). Sometimes she'd raise a hand in front of her face and stare at it, enraptured.

Blood tests were about all that was even possible. The light inside her blinded x-rays, MRIs, endoscopes.

"The light seems to be treating her cellular structure as a lattice," said the scientist from the institute, somehow almost reverent and a little sour at the same time. "It goes without saying this wasn't an anticipated effect."

All of which only served to confirm what you could see with your eyes; Daisy's flesh was turning into solidified light.

"But can you stop it?" Jan asked, breathless.

Daisy looked away from the square of blue sky outside the

window for the first time in an hour. She asked, “Why would you want to stop it?”

We agreed to leave her in hospital overnight. We drove home; not speaking, and it occurred to me that for once I didn’t know what Jan was thinking.

The hospital rang at three in the morning in an apologetic panic. Daisy was gone. She’d had to be coaxed back into bed several times after being found standing motionless at the foot of her bed. Then when the nurses’ backs were turned, she’d wandered out.

“For God’s sake, how hard can she be to find?” I demanded, terrified at the thought of our horribly frail sixteen-year-old wandering the streets in nothing but a hospital gown. “She *glows*.”

But it wasn’t until eight in the morning that the police did find her; Daisy had walked out of the fields onto a motorway eighteen miles from the hospital. She had caused a car crash in which thankfully no one was seriously hurt.

The police wrapped her in blankets which Daisy unobtrusively pushed off, and drove her back to us.

“What on earth were you thinking?” Jan shouted at her. “Don’t you know how worried we were?”

Daisy stood serene as architecture.

“Say something, for Christ’s sake! The nerve of it, just standing there!”

“I didn’t need to be there,” said Daisy. “I’m not ill any more.”

“Where were you going, Daisy?” I asked.

Daisy smiled, the brightness of it self-contained and private. “Home.”

But she’d been walking east and we lived in the opposite direction.

The light began to exude from our daughter’s skin, leaking like sweat from her pores. When she was at home she left smudged fingerprints glowing on walls and banisters. Light soaked from her skin into her bedclothes and wouldn’t wash out.

There were even streaks of light in the toilet bowl, for God’s sake.

Her hair fell out. She didn’t care. The light poured from her naked scalp.

She stopped wearing clothes. You could see her body through them anyway and she never felt cold.

(Jan found the daisy-chain necklace, stained with light, discarded in a corner. )

It was no longer possible to see her expression. She didn’t◦– of course◦– cast any shadow.

It was the brightest day of the summer so far. Daisy was, as she said she had been that first day, standing in the garden. Between her and the sun I could barely see a thing. The concrete tiles blazed white. Squinting, I could make out that Daisy's arms were still raised above her head; she'd been holding them like that for impossibly long, utterly still, without even a tremor.

"What are you doing?" I asked, but she didn't seem to notice I'd spoken.

I rubbed my eyes and tried to look at her again.

Her face was upturned, her lips parted in that secret rapture. Her eyes open.

"Daisy!" I grabbed for her. "You'll blind yourself◦– !" I tried to clap my hand over her eyes, but her skin was so hot I let go.

"I'm not blind," said Daisy, dreamily. "I can see everything."

I went back into the house. Black spots danced in front of my eyes, after all that light.

I heard screaming. Jan, yelling my name, and Daisy –

"No. No, you can't. No!" Daisy sounded◦– almost◦– like her old self in a tantrum, screaming, stamping, slamming doors. Though actually, the one who was acting like that was Jan, who as I ran into the room was in the act of elbowing Daisy out of the way so as to slam the French doors shut, before trying to wrestle her onto the sofa and contain her in the duvet from her bed.

"Close the curtains!" she roared at me.

"What?"

"Close them!"

I did. I knew, really, what she was thinking, felt the same surge of furious hope that perhaps it would work.

Daisy wailed.

"The more you're out in the light the more you change!" Jan shouted. "What's going to happen when there's nothing left of you but light? You need *darkness*."

"You can't!"

"Help me get her upstairs," said Jan grimly. "We'll have to fit shutters on the window."

"You can't," sobbed Daisy, although it wasn't exactly sobbing, I don't think she *could* cry by now. "I'll get out! You know I'll always get out!"

I looked at her, her face invisible in the light, her body glowing dangerously through the duvet.

I thought of the mud she tracked through the house when she was ten, twelve; the diaries she bought and didn't write in, how small she

looked when she first caught a bus by herself.

I didn't let go of her but I loosened my hold a bit. "Daisy" I asked. "Would you go back to the way you were before– not when you were ill, of course, but before that?"

"I can't."

"But if you could?"

Daisy stopped struggling and didn't answer for a while. But I don't think she was hesitating, so much as trying to remember what 'before' even meant.

"No," she said in the end, as I knew she would.

I closed my eyes. But I could still see her shining through my eyelids.

"What's it like?" I asked. "It doesn't hurt?"

Daisy relaxed, softening like white-hot metal or molten glass. "No," she said. "No, it's wonderful. I can see where the light comes from. I can see where it goes. I can feel everything inside it, inside me. Colours."

"Can you?" I said, hearing my voice tear around the words. "Majorelle Blue?"

"Majorelle Blue," agreed Daisy, no longer sounding anguished; no longer sounding like a girl. The light pouring out of her. "A lemon-yellow bed. Majorelle blue…"

"Right then," I said. And I let her go. Jan tried to hang onto her but I held her back.

"Leave her alone," I said.

Daisy got up. She crossed the room. Parted the living room curtains. The sun poured in through the windows and melded with hers until it was impossible not to look away.

Then she wasn't there, and there was nothing but sunlight in the garden.

It was midsummer's day.

Jan searched for her for hours, days. Called the police. Called me a murderer, pushed me away. Ran into Daisy's room and sobbed on her bed.

I sat in the living room and stared at Daisy's silhouette, imprinted on the glass she'd walked through in solid light.

The phone rang and rang today. It might have been the lawyers, the police. The court case– I keep forgetting about it; it doesn't seem very important. Nor did answering the phone. Though we'll have to decide, at some point, what we're going to do. If any kind of damage-limitation is even possible.

If this is even a matter of damage.

Today Jan came downstairs and found me on the sofa where I've been sleeping (though lately, I'm feeling less need for sleep). I've been leaving the curtains open; she shut them.

"Alan," she said, and held out her hands.

The light was still a soft, dawn-like tint to her wrists, climbing up under her sleeves and rising from under her collar into her cheeks.

I laughed, because there seemed nothing else to do, and showed her mine.

I noticed the light in the flesh of my fingertips first, then found it was everywhere; lining the contours of my body, glimmering around blood vessels of my throat. It's still dim enough that the bathroom light will cancel it out.

We should have thought of it. We should have seen that of course, exposure to all that light she shed around the place would do exactly the same to us as it did to her. And all the people who touched her at the hospital, and that we've touched since…

Maybe it's preventable. Maybe it takes more of it than that. It might be limited to us.

"Well, now what'll we do?" said Jan, almost sheepishly. Whether because the light's already getting into my eyes and brain, because of the soft glow of her skin or because of something else, it seemed I could see the details of her face more clearly than I had for a long time.

"Come here," I said, and pulled her into my arms. The familiar warmth of her was still all hers; not the heat of the light.

We kissed. We hadn't done that it in I don't know long. It hadn't seemed necessary, but now it did.

"Tell me your favourite colour," I said.

-

*Are you horrified? You should not be. This is the state of being that Mercury demands of us.*

———

*Glove puppet ghost, part of a Punch and Judy belonging to puppeteer Peter Butchard (1909–2009). This puppet is used for the play's "look behind you" moment, as the audience sees the ghost who is out of sight of Punch.*

# A MAP OF MERCURY
## ALASTAIR REYNOLDS

When at last his ship had escaped Mercury's gravitational pull and aligned itself for the long cruise back to Jupiter space, Oleg unstrapped from his launch couch and floated through the cabin until he reached the aft stowage rack where he had slotted the artwork. It had been a fight against temptation, not opening the box until now, but he had promised himself that he would not do so until he had reached space. Perhaps it was unwise to open it at all, and certainly before he surrended it to his Jovian masters. But he had been given no special instructions in the matter.

The box was light, almost too light, as if it contained no more than air or packing. Was it a last trick on the world, he wondered? An empty container? A box full of high-grade vacuum?

He would have to open it to know.

The container was an unprepossessing object. It was a plain white in colour. Its upper third was hinged and secured by a simple metal clasp. It was the kind of thing, he reflected, in which one might recieve a hat or perhaps a new space helmet.

The clasp released easily under his fingers. He hinged open the top of the box. Immediately beneath the lid lay, as anticipated, a wadding of packaging. He plucked the cottony material away, until a harder form began to reveal itself. It was the upper part of a rough-textured sphere. It was beautifully shaded and coloured◦– a warm grey, relieved by blue and gold mottling and the circles and sprays of fine white cratering. The polar region glittered with tiny embedded diamonds, signifying motherlodes of frozen water, locked in shadowed craters for mindless aeons.

Well, of course. It was a globe. The clue had been there in the title all along.

A Map of Mercury.

He had come in with high expectations◦– unrealistically high, perhaps.

The artists kept the place clean. Being cyborgs they could tolerate both the lit and unlit faces of the slow-turning world, but they moved anyway◦– camping and then travelling on, endlessly. Except for their artforms, littering the crust like Ozymandis heads, they left no trace of themselves. On airless Mercury the shadows of these things clawed out to the limit of the world's curvature.

From orbit he had locked onto their moving caravan. It had only

been a little distance ahead of the terminator, the dividing margin between day and night.

"Hello," he declared cheerfully. "I have come from Jupiter. I would like permission to land and speak with Rhawn."

"This is the Cyborg Artistic Collective," came back the reply. "Thank you for your interest, but your request to speak with Rhawn is declined."

Oleg smiled, for this was nothing more or less than he had anticipated. "I'd still like to land. Is that possible?"

"Do you have tradeable goods?"

"Yes, and I'd also like to barter for fuel. I can set my ship down a little ahead of your caravan and cross the remaining ground on foot."

"That is acceptable," the voice said eventually. "One of us will meet you. Bring your tradeables."

He lowered on thrust until his little ship pinned itself to the face of Mercury like a brooch. Once down, it flicked a parasol across itself and began to cool down.

Oleg emerged from an airlock in a bulky spacesuit patterned with active mirror facets and fanlike cooling vanes. He went around to the back of the ship and unpacked two scuttling chrome spiders. The robots helped him unload the tradeable goods from the ship's belly hatch. Then he orientated himself and set off for the caravan, with the spiders following.

Here the Mercurean terrain was as flat as a salt lake. The caravan was a huge, raggedy thing composed of many travelling elements. Some as small as a person◦– some, indeed, were cyborgs jogging next to the procession◦– while others were as big as mansions or beached spacecraft. The larger structures were made up of a bits of scavenged vehicle, fuel tank and pressure module, cut-and-shut into rococo dwellings. Sails, banners and penants whipped high into the airless black. On one platform travelled the huge, lacy outline of a two hundred metre high stallion. Inside the horse's geodesic chest cavity, tiny figures worked with nova-bright welding torches. Another form, equally tall, was a naked human woman balancing on one leg. She had her arms cantilevered out for balance, one ahead and one behind. Jammed into her torso at odd, disruptive angles were repurposed cargo modules.

One of the cyborgs broke from the pack and jogged out to meet him. Beneath its knees, the cyborg's legs were springy prosthetics that sent it metres into the sky with each stride.

"Welcome, Oleg," said a synthetic voice. "We spoke earlier. I am Gris. Have you been to Mercury before?"

"No, this is my first time. Thank you for allowing me to land."

"That is a very impressive suit," Gris said. "I imagine it could

keep you alive for quite a while?"

"Not as long as yours, I'd wager," Oleg said.

"Ah, but we don't think of our suits as *suits*." Gris touched a fist to its chest, in a kind of salute. "This is my skin, now and forever. I'm wired into it on a profound sensory level◦– full haptic and proprioceptive integration. I don't just *live* in it◦– it's part of me. I trust that doesn't unsettle you?"

"If it did, I'd be the wrong person to come to Mercury. And definitely the wrong person to speak to the Cyborg Artistic Collective."

Gris's suit◦– or skin, if that was the proper way to think of it◦– was a mechanical integument giving little hint of the organic contents within. The armour was multicoloured and baroquely patterned. Gris's helmet had become a beak-faced gargoyle, with multiple cameras wedged into its eye-sockets. There was no glass or visor.

"I know you've come a long away," Gris said. "But you mustn't take Rhawn's disinterest personally."

They walked under the Sun. In Oleg's view it had no business being *that big* or *that bright*. The intensity of its illumination, averaged over an orbit, was a hundred times stronger than he was normally used to. That bloated inflamed Sun was an affront to his sensibilities. It would be very good to be on his way from Mercury, back to the civilised polities of Jovian Space.

But not without the thing he had come for.

"Rhawn's star has risen," he observed.

"It makes no difference to her. Mercury is her home now. The sooner people accept that, the happier everyone will be. Are those your tradeables?"

"It's not much, I know. But there are some rare alloys and composites in there, which you may find of value."

When they were at the caravan cyborgs were waiting to pick through his offerings. A value would be placed on the items, which Oleg was free to accept or decline.

"You can come aboard," Gris said casually. "We have provision for guests, if you wish to get out of the suit. It will take a little while to give you a value for your goods, so you may as well."

"Thank you," Oleg agreed.

Gris brought him to one of the sliding, sledge-like platforms. They vaulted up onto a catwalk, then found an airlock leading into the side of a chequered structure made from an old fuel tank. Oleg satisfied himself by just removing the helmet and gloves, placing them next to him on a kind of combination sofa and padded mattress. Gris, squatting on the other side of a table, had removed no part of its suit except the spring extensions of its legs, presently racked by the door.

Now it busied itself pouring herbal infusions into little alloy cups.

"Were you an artist before you came here?" Oleg asked, to be making conversation.

"Not at all. In fact I came to trade, just like you. My spaceship needed some repairs, so my stay turned from days into weeks. I had no intention of becoming part of the Collective."

"Were you… like this?"

"Cyborgized, you mean? No, not at all. A few simple implants, but they don't really count." The goggled face was inscrutable, even as it decanted tea into a little receptacle on the end of its beaklike mandible. "It was a difficult decision to stay, but one that in hindsight was almost inevitable. There's nowhere like this anywhere else in the system, Oleg◦– nowhere as simultaneously lawless and civilised. Around Jupiter, you're bound up in rigid hierarchies of wealth and power. Here we have no money, no legal apparatus, no government."

"But to become what you are now… that can't have been something you took lightly."

"There's no going back," Gris admitted. "The crossing◦– that's what we call it◦– is far too thorough for that. I sold my skin to the flesh banks around Venus! But the benefits are incalculable. On Mars, they're remaking the world to fit people. Here, we're doing something much nobler: remaking ourselves to fit Mercury."

"And was Rhawn already here, when you were transformed?"

"Ah," Gris said, with a miff of disappointment. "Back to that now, are we?"

"I've been sent to make contact. My masters will be very disappointed in me if I fail."

"Masters," Gris dismissed. "Why would you ever work for someone, if you had a choice?"

"I had no choice."

"Then I am afraid you had best prepare to disappoint your masters."

Oleg smiled and sipped at his tea. It was quite sweet, although not as warm as he would have liked. He presumed that Gris still had enough of a digestive tract to process fluids. "Rhawn's early work, what she did before she came here, was just too original and unsettling to fit into anyone's existing critical framework. They wanted her to be something she was not◦– more like the artists they already valued. In time, of course, they began to realise her worth. Her stock began to rise. But by then Rhawn had joined your Collective."

"None of this is disputed, Oleg. But Rhawn has had her crossing◦– become one of us. She has no interest in your world of investors and speculators, of critics and reputations."

“Nonetheless, my masters have a final offer. I would be remiss if I did not try everything in my power to bring it to Rhawn’s attention.”

“Forget dangling money before her.”

“It isn’t money.” Oleg, knowing he had the momentary advantage, continued to sip his tea. “They know that wouldn’t work. What they are offering, what they have secured, is something money almost couldn’t buy◦– not without all the right connections, anyway. A private moon, a place of her own◦– the space to work unobstructed, with limitless resources. More than that, she’ll have the attentions of the system’s best surgeons. Their retro-transformative capabilities are easily sufficient to undo her crossing, if that’s what she desires.”

“I assure you it would not be.”

“When she completed the crossing,” Oleg said patiently, “she would have surrendered to the total impossibility of ever undoing that work. But the landscape has changed! The economics of her reputation now allow what was forbidden. She must be informed of this.”

“She’ll say no.”

“Then let her! All I request◦– all my masters ask of me◦– is that Rhawn gives me her answer in person. Will you allow me that, Gris? Will you let me meet with Rhawn, just the once?”

Gris took its time answering. Oleg speculated that some dialogue might be taking place beyond his immediate ken, Gris communing with its fellow artists, perhaps even Rhawn herself. Perhaps they were working out the best way to give him a brush-off. The Collective needed to trade with outsiders, so they would not want to be too brusque. Equally, they were obviously very protective of their most feted member.

But at length Gris said: “There is a difficulty.”

Oleg stirred on his mattress. The suit was starting to chafe◦– it was not built for lounging around in. “What sort? I’m here, aren’t I? Why can’t I have a moment with Rhawn? Is she unwell?”

“No,” Gris answered carefully. “Rhawn is perfectly well. But she is not here.”

“I don’t understand. She can’t have left Mercury◦– no one would have missed that. And the Collective is all there is. Has she gone off on her own?”

“Not exactly. But you are wrong in one matter. The Collective is not all that there is. Or at least, it isn’t any more. There has been …” And now Oleg had the sense that Gris was choosing its words with particular care, and not a small measure of distaste, as if it found the whole business painful. “A division within our ranks. The formation of a second caravan. A breakaway movement, springing from within the Collective.”

Oleg listened intently. His masters either knew nothing of this, or they had failed to brief him adequately. “When, what, how?”

“It would probably be easier if I showed you,” Gris said.

Soon the caravan had fallen behind them, receding over the horizon until even the stallion and the balancing woman were lost. Their shadows, Oleg noticed, were slowly lengthening, stretching ahead of the fast little surface vehicle Gris had commandeered. Mercury was a small world and they were covering ground very rapidly, pushing the Sun toward the horizon. Beyond, but closer by the moment, was the transition zone of the terminator and the extreme cold of the unlit face. He thought of his delicate little ship, how far he was from it now, how totally at the mercy of his cyborg host.

“Tell me about Rhawn.”

“There’s not much to say. She was always restless◦– in her art and her soul. It’s what brought her to Mercury. She found contentment with us, for a while. But always there was that need to push against her own limits, to break out of existing formalisms. It was only a matter of time before she attached herself to the Totalists.”

“The breakaway movement?”

“Of course.”

“You said they’d formed a second caravan. Do they move around Mercury, the same way you do?”

“Most of the time. They’re camped now.”

“What’s so special about them, that Rhawn had to leave the rest of you? Aren’t you radical enough?”

“They are purists. Extremists, if you will. We have accepted extensive physiological alteration to adapt to life on the Playa. It enables us to work almost without restriction, to submit ourselves to the act of artistic creation. But even we have limits.”

“Really?”

“Our bodies and minds are still hampered by the design compromises of biology. In the Totalists’ view, that makes us inefficient and in need of radical improvement.”

“What could be more efficient than you?” Oleg asked.

“Robots,” Gris said.

At length they traversed the terminator and entered the starlit nightside of Mercury. In his suit Oleg felt nothing of the precipitous temperature drop, seven hundred awesome kelvins of it, but the faceplate markers recorded the transition from appalling heat to appalling cold clearly enough, and now the suit was having to work just as competently to keep him from freezing to death. He supposed that Gris’s life-support mechanisms were coping with a similar shift in

demands.

"They keep away from us, mostly," Gris said. "We aren't enemies, as such. We are obliged to conduct a certain amount of business, and of course the Totalists have no contact with the outside world at all. On the rare occasions when they need something, they have to rely on our cooperation. But I would not say our relationship is an easy one. There have been … acts of artistic sabotage. Denied, of course. But it's no secret that the Totalists view our work as decadent, corrupted, mired in a state of creative exhaustion."

"I suppose it was inevitable," Oleg said. "There can't have been an artistic movement in history that hasn't eventually fractured into two or more creative poles. If it's any consolation, they'll have their own splitters sooner or later!"

"No," Gris said. "It's no consolation at all. We made something beautiful here, Oleg. There's no reason in the world it had to break up like this."

As they approached the Totalists' encampment Oleg was struck by how profoundly the scene resembled an exact negative image of the dayside caravan. The sky was a nearly faultless black, its perfection only marred (or improved upon, perhaps) by a sprinkling of stars and planets, the great glittery arch of the Milky Way and the faint dust haze of the solar system's zodiacal light.

Whereas the caravan had moved under the full blaze of day, here the only lights were those provided by the Totalists themselves. The encampment was smaller than the caravan, but the essentials were similar: it was a cluster of things which could be dragged or self-propelled across Mercury, when the time came to move. They also had sails and pennants, except that these were picked out in edges of colourful neon: reds and yellows, blues and greens, purples and oranges. The figures moving around the camp's periphery were also outlined in bright hues. Oleg had been expecting something austere, but the proliferation of colours and shapes elevated his spirits.

"It's marvellous!" he said.

Rising from the illuminated camp was what Oleg took to be a piece of large-scale art in the same spirit as the stallion and the balancing woman. It was a cluster of spires, or perhaps a single main spire attended by a large number of smaller ones, linked by a connecting tissue of arches and flying buttresses. The pale structure had a knobby, rough-cast haphazardness about it. It might almost have been glued together from millions of sea-shells, or fossils.

"The Bone Cathedral," Gris said, with a hint of dismissiveness.

"Do they move that around with them? It looks much too fragile."

"No, it stays fixed to this spot. They've been building it for several

years now. The day and night cycles don't seem to do it any harm. When it is time for a new Totalist to complete their crossing, the caravan circles the Bone Cathedral." Gris applied the brakes and brought the vehicle to a halt. They were still a decent kilometre from the Totalist encampment. "You'd best go the rest of the way yourself."

"What do I do?"

"You need do nothing. They will either talk to you or ignore you. They already know that you are here."

He disembarked from the vehicle. He looked up at the goggle-faced creature that had become his companion, fully aware that if Gris abandoned him here◦– and the Totalists disdained to help◦– he would be in a great deal of trouble. They had come much too far for the range of his suit.

"I would not be too long about it," Gris warned.

So Oleg wandered across the black Playa. His suit projected a terrain overlay. It was still functioning properly. He kept looking back, making sure the vehicle and the cyborg still waited. But Gris remained. And as the Totalist camp loomed larger, so one of the neon forms broke away from the blaze of colour and came loping over to meet him.

The thing had arms and legs, a body and a head in roughly the right proportions, but there was no possibility that it was anything but a robot. There was no room in it for anything human. The thing's chassis was an open exoskeleton, offering an easy view of its internal mechanisms. Oleg saw lots of machinery in there, much of it lit up and flashing in pretty colours, but there was nothing that looked biological. Its head was a cage that he could see all the way through, only loosely stuffed with instruments and modules.

"I'd like to speak to Rhawn," Oleg said confidently.

"Who are you, and why have you come?" The robot's voice, picked up by his helmet, was lighter in tone than that of Gris.

"I am Oleg. I've come from Jupiter to offer Rhawn a moon of her own and the chance at reverse cyborgisation◦– to become fully human again."

The robot emitted a noise like fading static. It took Oleg a moment to realise he was being laughed at.

"Go home, meat boy. Be on your merry way."

"I realise that my offer's likely to be rejected. But my masters won't be satisfied until I have the answer from Rhawn herself. She's here, isn't she? I won't take more than a few minutes of her time."

"Your timing," the robot said, "is either very fortuitious or very poor."

"My timing is sheer luck," Oleg said. "Until just now I didn't even know that Rhawn had joined the Totalists."

“She hasn’t.”

“I was told …”

“Rhawn has *commenced* her second crossing. But until it is complete, she will not be one of us. It will happen soon, though. We are confident in the force of her conviction. It is certainly much too late for reversal.”

“Can I at least talk to her?”

Again Oleg had the sense that matters were being discussed. Lights flickered and strobed in the cagelike enclosure of the robot’s head. Oleg risked a glance back, satisfying himself that the vehicle and its driver were still there.

“Rhawn is … receptive,” the robot said. “You will have your audience. But it will be brief. Rhawn has readied herself for the final phase of the crossing. She will not be detained.”

“I only need an answer.”

The robot brought him into the encampment. Up close, he saw that it was not as similar to the caravan as he had first assumed. There were hardly any enclosed spaces◦– just a few sealed modules which may or may not have been airtight. The remainder of the structures◦– most of them wheeled or skid-mounted, even as they were now parked around the Bone Cathedral◦– were for the most part skeletal frames. Their roofs were parasols and solar-collectors, their walls either absent or no more than concertina-hinged magnetic screens which could be drawn across when required. Gathered around and inside these treehouse-like forms were many similar-looking robots, lounging or reclining like overfed monkeys. They were plugged into bits of architecture via their abdomens◦– recharging from stored power, Oleg supposed, or perhaps pushing energy back into the community. There seemed little in the way of artistic creation going on. But perhaps the robots had been furiously preoccupied before his arrival.

“Is Rhawn one of these?”

“They are what Rhawn will become. It will not be long now.”

“You all look the same.”

“You all look like tinned meat.”

Through the thicket of skeletal structures Oleg was at last brought to an upright green block the size of a small house. It was a round-ended cylinder that might once have been a fuel tank or reactor chamber, before being anchored to a moving platform and gristled over with access ladders, catwalks and power conduits. In contrast to its surroundings this dumpy, windowless flask seemed entirely enclosed. Oleg’s robot host spidered up a ladder and looked down as Oleg completed his clumsy ascent. The robot opened a door in the side of the chamber, then stood aside to allow Oleg to pass through first.

It was not an airlock, for the interior of the green flask was still

depressurised. Oleg had emerged onto a platform running around the circumference of the interior, with a circular gap in the middle. Supported in the chamber's middle, with a large part of it beneath the level of the platform, was a hefty piece of biomedical machinery. Many cables and pipes ran into the upright, wasp-shaped assemblage. Three robots, much like his host, were stationed around the machinery at what Oleg took to be control pedestals. They were not moving, but the robots had plugged in to the pedestals via their abdomens. Oleg presumed that they were directing whatever complicated procedure was going on inside the machine.

The wasp-shaped machine culminated in a glass dome. Inside the glass was a beaked and goggled head much like that of Gris, except that it was encased within a bulky surgical clamp. Beneath the head, enclosing the neck, was a tight metal collar separating it from the rest of the machine.

Oleg surveyed the beaked and goggled face with deep dread and apprehension.

"Rhawn will speak to you now," the robot said.

"Thank you, Rhawn, for agreeing to listen to me," Oleg said hastily. "I have come from Jupiter, with …"

"I know where you came from, you spineless little shit."

Oleg bristled. He had listened to enough recordings to recognise the voice as belonging to Rhawn, despite a deliberate machinelike filtering.

"I …" he began.

"Stop cowering. What are you, bacteria? A vegetable? The Totalists horrify you, but you are the puppet, the thing with no free will."

"I only need an answer."

"I studied your background, when I knew you were approaching. Oleg the failed artist. Oleg the supine instrument of market forces. Oleg the pliable little turd, shat out by Jupiter. Why do you imagine your insolent little piss-streak of an offer would be of the remotest interest to me? Why should I not have your suit drilled through now?"

"My masters thought …" His throat was as parched as the sunlit Playa itself. "They didn't know that you'd left the Collective. They thought there might still be a possibility to …"

"To do what? To make me normal again? To bring me back to the condition of meat?"

"To undo what has been done."

"As if it were a mistake, that I now regretted?"

"I didn't mean it like that."

"But your masters did. Did it never occur to question this mission? To doubt its idiotic purpose? To show the slightest sign of

independent thought?"

One of the robots at the control plinths turned its head slowly in his direction.

"Things have changed since you came to Mercury," Oleg persisted, refusing to waver under the robot's eyeless regard. "No one knew what to make of your art, when you joined the Collective. It was too different, too hard to assess."

"If they were idiots then, they are idiots now."

"But idiots with money and influence. Do you understand the terms of the offer, Rhawn?"

"My understanding is irrelevant. I can no more be 'undone' than an egg can be unsmashed, or meat uncooked. Let me demonstrate. Have you a strong stomach?"

"I–"

But Oleg had barely begun to give his answer. The surgical clamp around Rhawn's cyborg head was reconfiguring itself, pulling away to separate the tight-fitting segments of her armour. Oleg thought back to what he had learned from Gris, of how the cyborg exoskeleton had become its living skin. This was how it must have been for Rhawn, before she exiled herself to the Totalists. There was a human head under her metal plates, but it was a head already skinned back to an anatomical core of muscle and sinew and nervous system. She had been blind, without the cameras. She had no nose or mouth or ears, for she did not need to breathe or speak or hear. Her cyborg senses were wired directly into deep brain structure, bypassing the crude telemetry of ancient nerve channels. Machinery was plumbed directly into her heart and lungs.

"Are you horrified? You should not be. This is the state of being that Mercury demands of us. There is no pain, no discomfort, in being what we are. Far from it. We revel in our new strength, our bold new senses◦– our resilience. To each other, we have become beautiful. We drink in the sustenance of the dayside Sun and glory in the stellar cold of the Mercurean night. But why come this far, and not go all the way?"

"They tell me that your crossing is nearly done."

"It's true." And for the moment her spite seemed to move off him. "There is almost nothing left of my old self now◦– the old vehicle in which I moved. What use are lungs and a heart, on Mercury? What use is a digestive system? What use is meat? These things are simply waiting to go wrong, waiting for their moment to fail us. To undermine us in our absolute, unblinking dedication to art. So we gladly discard that which the Collective fears to surrender. The flesh. Every organic part of ourselves. We donate our bones to the Bone Cathedral! The Playa was made for robots, Oleg◦– not 'mere mortals',

or their half-way cousins. We are the true heirs of Mercury◦– we the Totalists!"

Something in him snapped in that moment. "You're committing suicide, in other words. Being taken apart, until there's nothing left of you. You can't *become* a robot, any more than you can become air, or sunlight!"

"What is this◦– a glimmer of contradiction? The faintest signs of a spine? Keep at it◦– there may be hope for you yet."

"This isn't about me. This is about you, throwing yourself away◦– wasting what you are."

"How little you understand of us. What would be the *last* thing I clung to, do you think? The last, most sacrosanct piece of myself?"

"Your mind," he stated firmly. "You do not reside in your heart and lungs, but without your brain, there is no Rhawn."

"What you mean is, without the encoding of my personality implied by my detailed idiosyncratic brain structure, there is no Rhawn. How could there be? But that encoding doesn't care about the terms of its own embodiment."

"I would," Oleg said, with fierce certainty.

"Weeks ago, at the commencement of my second crossing, small volumes of my brain structure were duplicated by artifical connective structures located outside my body. Machine circuits, in other words. When neural signals passed through the interfaces of these brain volumes, my Totalist peers had the freedom to choose whether those signals continued to pass through my existing anatomy, or were instead shunted through the exosomatic structures. The change was made, and then switched back◦– and made again, over and over! The key thing is that I felt no change in my perception of self, regardless of whether my thoughts were running inside my head, or in the exterior circuitry! Electricity doesn't mind which route it takes, as long as it gets to the same destination! And so, step by step, volumes of my own brain were switched out◦– supplanted and discarded! This continued. Over the weeks, fifty, sixty, seventy percent of my old architecture was supplanted by exosomatic machinery. And now you arrive. I stand now on the cusp of absolute machinehood◦– ready to make the final transition to Totality. Only the last ten percent of my mind is still inside my head. You see now why it is far, far too late to reverse what I have become?"

"There's still active brain tissue inside you?" he asked. "Still some meat, inside the head I'm looking at?"

"What is left of me, you could squeeze between your fingers, like a handful of wet grey sand."

"Then where is the rest of you? Executing inside one of these machines? Already in a robot, waiting for you to take control?"

“You misunderstand. Ninety percent of me has already completed the transition. And one hundred percent of me is already in control. My robot body is not ‘waiting’ for me. I am already mostly in it. And we have already met.”

He turned from the globed head, conscious that the robot that had brought him in from outside was still there. He looked with renewed fascination at the symphony of flickering coloured lights.

“I should have guessed. You never did give me your name.”

“And you never asked,” the robot said, nodding. “But here I am. This is me. I am Rhawn. That *thing* that you have been talking to, that is just the place where I used to live.”

“You could have given me your answer outside.”

“I thought it would help if you understood. I am ready now, you see. But that last ten percent of me◦– I won’t pretend that there has not been hesitation. I could have completed the transition days ago. On the brink, I quailed! Foolishly, I could not quite bring myself to submit to Totality. The meat’s pathetic last twitch! But you have been the spur I needed. For that alone, Oleg, you have my undying gratitude.”

“I’ve done nothing!”

“You have come, and now you may observe. Suffer one useful moment in your miserable existence. Are you prepared?”

“For what?”

“To bear witness. To document my becoming. In a moment, the last traces of my living neural tissue will cease to serve any useful function. And I will have transcended myself.” But when he thought she might be done, Rhawn added: “You may thank your masters, Oleg, for their kind offer. I spit it back at them, all the same. They were much too late, of course, but it would have made no difference if they had sent you years ago. I have been on this path for much too long for that. I have always felt the pull of Totality, even before I knew it in my self. The more I move from the meat, the more the meat repulses me.”

“And one day,” Oleg said, “you’ll feel the need to go beyond this as well. It’s in your nature.”

“What could possibly lie beyond the perfection of robotic embodiment?”

“The greater perfection of non-embodiment. The flawless condition of non-existence.”

“You mean that I would kill myself.”

“I’m sure you will. You can’t ever accept what you are, Rhawn. It’s just not in your nature.”

A new light came on in the robot’s head. It was a pale green, rising and falling in brightness without ever quite dimming

completely. Oleg was quite sure it had not been activated earlier on.

"Even now?" she asked.

"Even now."

"Well, you're mistaken. But then, you are only human. And now that I have completed my second crossing, I feel my conviction more forcefully than ever before. We shall have to see who is wrong, won't we? I hope you have a great deal of patience, not to mention a solid medical plan. You are a bag of cells with an expiration date. Parts of you are already starting to rot. It will take me centuries to begin to exhaust the possibilities of Totality."

"You'll burn through then quickly enough. And then what?"

"Something beyond this. But not death. There is no art in death, Oleg. Only art's supreme negation."

He smiled thinly. "The world will await your next masterpiece with interest, Rhawn. Even if it never leaves Mercury."

"Well, something shall. Does this surprise you? And you shall be its custodian."

"I don't understand."

"It is… traditional… among the Totalists. At the time of our second crossing, we concieve of a new piece. A celebration of transition, if you will. The work is initiated before the crossing's start, and not fully completed until the crossing is done. I have … planned such a work. I call it *A Map of Mercury*. It is a minor piece, in the scheme of things. Almost beneath me. But since you have gone to such pains to find me, I should consider it fitting if it should fall upon you, the great and glorious Oleg, to bring the work to public attention."

"A new piece by Rhawn?"

"Exactly that," she said proudly. "A new piece by Rhawn. And, as far as the outside world is concerned, the last. No, I shan't be abandoning art. But the realms into which I expect to push… these will shortly lie beyond your conceptual horizon. You would not only fail to recognise my art as art, you would fail to recognise that it was anything at all. But this last piece will be my gift to you◦– and your meat cousins. You will find it comprehensible. Take it to your masters. Fight over it like dogs. I will enjoy watching the overheated spasms of your Jovian economy."

"It's not what they asked for," Oleg said.

"But they won't be displeased with you?"

"No," he supposed. "I came for you, but never with much expectation that you'd agree to the offer. They'll hand that moon over to someone else, I suppose. But to return with a new piece by Rhawn … that was never in my plans. They'll be pleased, I think."

"And will their pleasure be of benefit to you? Will you also profit from this?"

“I should imagine.”

“Then we are all satisfied. You will return to the Collective? Delay your departure by a couple of days, and the work will be packaged and delivered to you. It really is a trifling little thing.”

She had not been exaggerating, Oleg reflected.

He tugged more of the packaging away. The upper quarter of A Map of Mercury was now visible. But everything below that was concealed by a thin layer of protective material with a circular hole cut into it. He dug his fingers around the layer until it began to come free. He grew incautious. If he damaged the material, he could always say it had been that way when he found it.

Besides, he was starting to suspect that his masters would think very little of this offering no matter the condition in which it had arrived. It wasn’t the sort of thing they had been hoping for at all. Yes, it was a late Rhawn. But a globe? A Map of Mercury?

Something that literal?

The layer came free. He could see more of the globe now. There was in fact something a bit odd about it. Instead of continuing with the shape of the sphere he had been expecting, the object began to bulge in some directions and turn inwards in others. There was more packaging material to be discarded. He tugged it away with increasing urgency. There were two cavities opening up in one side of the no longer very spherical thing. Above the cavities was the fine swell of a brow ridge. Beneath the cavities◦– the eye-sockets◦– was the slitted absence where her nose would have been, and beneath that the toothy crescent of the upper jaw. There was no lower part.

He pulled the whole thing from its box. The colours of the top part, the emulation of the planet’s surface features and texturing, continued across every part of it. There were ochres and tangerines and hues of jade and turquoise. It had a fine metallic lustre, sprinkled with a billion glints of stardust. It was simultaneously lovely and horrible.

*A Map of Mercury*.

That was exactly what it was. She had not lied. Nor would this piece◦– this piece of her◦– dent Rhawn’s reputation in the slightest. No wonder she had needed a couple of days to make it ready. At the start of their conversation, ten percent of her had still been inside this skull.

Oleg had to smile. It was not exactly what he had come for, and not exactly what his masters had been after either. But what was art without an audience? She had made him her witness, and she had made art of herself, and she was still there, down on Mercury, having crossed twice.

Clever, clever Rhawn.

But then a peculiar and impish impulse overcame Oleg. He thought back to their conversation again. It was true, much of what she had said about him. He had been supine. He had tried and failed at art, and allowed himself to become the servant of powers to whom he was no more than an instrument. He had become spineless. He did what they told him◦– just as he was now executing Rhawn's wishes.

A tool. An instrument.

A machine made of meat.

A little while later a little door opened in the side of Oleg's spacecraft. It was a disposal hatch, the kind he used for waste dumps. A small grey nebula coughed out into vacuum. The nebula, for an instant, glittered with hints of reflectivity and colours that were not entirely grey.

Then it dispersed, and the ship continued on its merry way.

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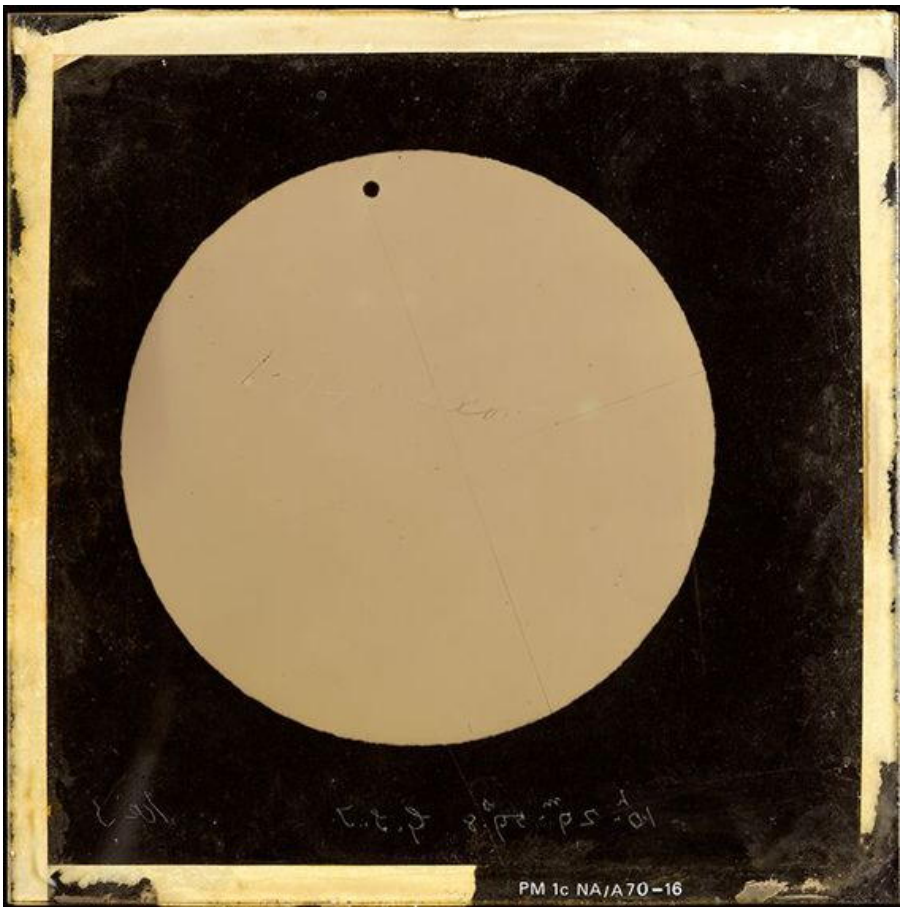


*Days and nights aren't even real; they're a lie, a lie within a lie.*

———

*A square glass plate negative of the Transit of Venus. Taken at Luxor in 1874 with one exposure of the planet Venus crossing the Sun's limb.*

# ASHEN LIGHT
## ARCHIE BLACK

### *I*

The village of Hartmann stands on the high sorghum plains of Ishtar Terra, a lonesome area that other Venusians call “out there.” This area of the IT is known as the Lakshmi Planum. It is a little less that two and a half thousand kilometers across, and surrounded on all sides by mountains◦– the four main mountain ranges found on the planet. When, in 2392, planetary engineers finally liquified Venus’ core, kickstarting the planet’s dynamo and strengthening its magnetic field enough to maintain an atmosphere and make terraforming feasible, the decision was made to begin the planet-wide colonization process on Venus’ highland regions. Aphrodite Terra, warmer, larger and topographically rougher than its sister, was dedicated to mining. Ishtar Terra’s Lakshmi Planum, with its smooth plains and gently rolling wrinkle ridges, was deemed more suitable for agriculture. Following successful completion of the terraforming process, farming colonies were migrated to the IT from Earth. They dispersed to create widespread, albeit close–knit, communities, centered around small towns scattered seemingly at random across the planum.

Hartmann was founded in 2448, one of a hundred roughly nucleated villages developed on the IT by the Venusian terraformers. Farms, it had been decided, would most closely mimic the comfortable terrestrial existences that the colonists would be forsaking and create the powerful sense of community the terraformers believed necessary to their long-term colonial agenda: the creation of a self-sustaining second Earth.

Hartmann is a strange assortment of buildings, none more than three stories tall, and home to only about two hundred and fifty people. It is, generously, a suburb of Riccioli, a small city twenty–five kilometers away, but, by 2519, no one from Riccioli went to Hartmann, unless to visit relatives, and most of the citizens of Hartmann tended to have little interest in Riccioli◦– except Hartmann’s teenagers, of course, who were drawn to Riccioli, Hartmann’s only significant neighbor for hundreds of kilometers, like moths to a candle’s flame.

Despite the success of the terraforming project, and particularly the terraformers’ crowning achievement, the Overdome, an artificial layer between Venus’ thermosphere and mesosphere, Hartmann’s

fortunes have risen and fallen with the same unpredictable regularity of any other farming community's. Although the Overdome, which mimics a consistent, Earth–like cycle of day and night and maintains Venus' reasonably Earth–like atmospheric conditions, assists in regulating temperature and average rainfall on the Lakshmi Planum, it was nevertheless designed to allow for 'natural' variations, with the result that the Lakshmi Planum is prone to drought. Fortunately, however, the variation of sorghum that is grown in and around Hartmann was designed to be spectacularly drought–resistant, and so the little community is well enough off, if not prodigiously wealthy. They live their lives solidly, predictably, and comfortably. "No better place to live," says the sign on the road leading into town. And, indeed, it's a refrain often repeated after Hartmann's citizens win pie–making contests at the county fair, or following a satisfying meal at Mrs. McCallan's Shumai Shack.

Until one morning in early November of 2519, few Venusians◦– in fact, few Ishtarians◦– had ever heard of Hartmann. At the time, those few souls awake in Hartmann at that hour saw it◦– the pale green light that warmed the dark sky and, all told, heralded the end of eight lives. But afterward the townspeople, no longer content with Hartmann's comfortable isolation, began to take stock of their lives, their decisions. To wonder if, perhaps, there wasn't a better place to live, after all.

Michelle Keck was forty–nine years old. A third–generation Venusian, she had been born in IT's capital city, Helios, the only daughter of a banker and a lawyer. Despite her white–collar upbringing, Keck found herself drawn to Lakshmi's wide–open spaces and, to the surprise of all, took her degrees in geoplanetary physics and agriculture. While at college she was introduced to Franz Van, the younger brother of a classmate, and found herself immediately drawn to the sensitive young man, whose retiring personality and love of the ancient poets contrasted so starkly with her own robust practicality. Following a swift courtship, the two married and left Helios upon her graduation. Keck took a farming apprenticeship in Riccioli and, within five years, had taken over management of one of Lakshmi's larger farming collectives. Keck, however, wished to own her own farm. After saving up enough money to buy property outside Hartmann, Shelly and Franz packed up their young children and Franz's beloved collection of ancient books and moved to the little town. They lived in a two–room apartment above the local grocery store while Keck oversaw the construction of their house, out on a parcel of land she'd taken to calling Blackacre. In fall of 2507, the family had installed itself in its new home, a large and comfortable farmhouse set far off

the road, down an avenue of London plane trees, their growth artificially accelerated to provide shade within a year of planting.

Hartmann agreed with Keck, whom many townsfolk already knew personally from her activities in Riccioli. After leaving the farming collective, Keck took a chair on the collective's governing board and remained deeply involved in Riccioli's politics. In Hartmann, her first act, after purchasing Blackacre, was to join the local council. Within six months she had established herself as a likable, dependable, and recognizable personality in Hartmann's close–knit community.

While the relocation suited Keck and her children, Franz had already begun to struggle. Rural life did not suit him quite as neatly as it had his wife, and while he found Riccioli difficult, life in Hartmann was even more of a struggle. The shy, sensitive man, so different from his outgoing partner in both temperament and personality, began to withdraw, spending long hours in his study translating passages from the Vedas with, he claimed, an eye toward publishing the definitive examination of the ancient texts. His databites grew and grew, but the intended book never materialized. People in Hartmann spoke gently of him among themselves, generally with reference to his wife and children, and praising Keck's unflagging support of and loyalty to a man who had, it was clear, would never realize his potential.

The younger Kecks, meanwhile, received no such side–eyed commentary, being both intelligent and well–liked children. Although the son, Hershel, took a little after his father in terms of his interests in ancient works, he was, by his fifteenth birthday, a healthy young man with a string of accolades, both intellectual and active, to his name. His sister, Jen, shared her mother's robust enthusiasm for life and, in her sixteenth year, was both class president and on a clear path towards becoming class valedictorian.

By 2519, the Keck family was firmly established in Hartmann, their farm having grown to more than a thousand acres, and employing no fewer than eighteen laborers. Although by no means the wealthiest family in town, the Kecks were nonetheless comfortable. Shelly was known for, among other things, her habit of never paying for anything in cash. She claimed that using credits for everything, down to the smallest purchases, was the most efficient way for her to keep track of her expenditures. "I remember the lean years," she often explained, "when I had to budget down to the last penny. I picked up the habit of only paying in credits then, and it's served me well ever since." Although her children found her insistence on paying in credits only◦– including their allowances◦– frustrating, they, and the rest of Hartmann, nevertheless accepted the habit with a shrug and a shake of the head. After all, Keck was one of Hartmann's most prominent citizens; considering all she did for the local economy, she could be

allowed her few eccentricities.

And, moreover, considering the number of drifters who wander the IT, robbing the occasional isolated farmhouse, it was only reasonable to keep the cash on hand to a minimum. Although Hartmann was itself so isolated that it entertained very little crime, there was no reason not to be sensible about the issue.

Sloane Deeds was eighteen years old in November of 2519. Born in Kitt, a hardscrabble community on the slopes of Ioligam, a mountain in the Maxwell Montes on the eastern edge of the IT, Sloane was the outcome of the short union between two prospectors. Initially developed as an outpost to monitor volcanic activity in the years following the dynamo's reactivation, the town of Kitt had, by the end of the twenty–fifth century, been entirely abandoned by its scientific personnel. By the year of Sloane's birth, Kitt was made up of no more than twenty–seven souls, their number seasonally padded by itinerant prospectors. Sloane's own parents had both abandoned the town by 2512, leaving their daughter in the care of a local who abused the girl physically and sexually. One stormy night in 2516, the then–fourteen year old stole a knife from a neighbor and hid it under her bed. On the night of April seventh, 2516, she stabbed him five times while he slept and fled the town. It took her twelve days to hitchhike to Helios, during which time she first met Griffith Sinkman.

Griffith was twenty–seven in 2516, the second of five children born to an Aphrodite Terra couple. Aphrodite Terra had, in the decades since the dynamo's activation and the installation of the Overdome, developed from a large–scale mining colonization project into the most notorious resort settlement of the inner planets. The Sinkman family was, like most residents of the AT, peripherally involved in the resort/casino–driven economy, the family business being a small motel on the outskirts of Eos. All five Sinkman children received decent primary educations, but only Griffith, with his love of reading and movie–star good looks, seemed to be college material. So his mother and father invested their small savings in Griffith's potential and sent him to the University of Aphrodite Terra, Aethon. Eight months later Griffith was back home, recuperating from the helibike accident that had nearly killed him. When it was discovered that he had been on academic probation for a semester, and was near to flunking out, Griffith's parents withdrew him from the university. Following his recovery, a process of nearly a year, Griffith, scarred and newly jittery, stole what remained of his parents' savings and left home.

For nearly three years Griffith moved from city to city on the AT, regularly landing jobs and just as regularly losing them, thanks to his

violent and unpredictable temper. In 2512, the same year that Sloane's parents abandoned her in Kitt, Griffith stole an old woman's purse, knocking her down and breaking her hip in the process. When he was caught, seven hours later, it was discovered the old woman had had only four dollars in change, half of which Griffith had already spent on gum. Griffith was sent up to Garden City, a prison on the outskirts of Aethon, and served four years.

Upon his release, Griffith returned home, borrowed $300 from his family, and took a transport to the IT in violation of his parole. Within four hours of his arrival in Helios, Griffith had stolen a car and driven out into the Lakshmi Planum. It was on one of those long, empty roads, about a week after he'd first landed on the IT, that he picked up a fourteen–year–old girl who was looking for a ride to Helios.

Sloane and Griffith were immediately attracted to one another. Sloane, who'd never been more than twenty kilometers from Kitt, was enchanted by the handsome older man's descriptions of the bright lights of the AT: the glittering casino–cities, the tropical island–resorts situated off the coast of the AT's artificial sea, the endless excitement. For his part, Griffith was delighted by the pretty girl's instantaneous adoration. The two became lovers within days of meeting, and spent no more than two years apart for the rest of their lives.

Hartmann on Thursday, November 8, 2519, dawned clear, cold and bright. Venus' terraformers had made every effort to mimic the Earth's abiotic environment, so fall in Hartmann is as fall on a planet 261 million kilometers away. November is the last gasp of a dying year; the days are short and dry and the light is pure, cold white. The few leaves left on the trees rattle in the light breeze and the world feels used up and empty. Shelly Keck stood on a low hill looking out over her lands, watching the birds flutter among the plowed and broken grain fields. The wildlife of the IT were introduced by the terraformers to maintain the illusion of Earth for the first colonists, and had adapted more successfully than anyone could have hoped; on that cold day, Keck might have seen up to fifty-seven distinct species of bird alone.

That morning Keck stood, calculating the profit the year's harvest would bring her. Her daughter had received her early acceptance to UIT the week before, and Hershel had already expressed interest in attending the more expensive private University of Helios. In the unlikely event that neither child received any scholarships, Keck wanted to be certain that she had saved enough to send both to whichever college they chose to attend. She had been speaking of the cost of college education to other Hartmann parents nearly non–stop since Jen's acceptance letter arrived. She planned a trip into town that

day, to go over her finances with her accountant and discuss whether a new thresher was a practicable investment, or whether she ought to wait another year.

But this early morning stroll was a daily habit; up before dawn no matter what the season, Keck would spend the first hour of the day walking her property. “It makes me feel that I’ll catch any problem, anything not right, first thing,” she would explain. “And,” she would chuckle, “it lets everyone else get up without having me harangue them.” And so the day began as such days always did: Keck took her constitutional, her husband woke and retreated to his study, and her children got ready for school. They carpooled to Riccioli with one of Hershel’s schoolmates, a young woman named Alia Goya, whose mother was the band teacher and could be depended upon to get the children there on time. Jen and Hershel, the latter of whom had cherished a secret crush on Alia for at least a year, were, as usual, waiting outside at 6.50 when the Goyas pulled up.

At the same time, on the other side of the planum, Sloane and Griffith were sitting in a diner on the outskirts of Helios, eating pancakes and discussing the day’s plans. Sloane, who had never left the IT and wished desperately to do so, had instigated an argument with Griffith two months before. Despite three years spent roaming the Lakshmi Planum, engaging in both casual work and casual crime, the two were once again down to their last dollars. This, Sloane had noted, made even taking a transport to the AT impossible, much less would it allow for the life of sun–bathing on the resort islands off the AT coast she had dreamed of since first meeting Griffith. Following their argument the two had drifted apart for a few days, until Griffith tracked her down and promised her a big score, a sure–fire half–million in cash. A cell–mate up at Garden City had told him about the rural towns on the outskirts of the planum, in the west, about as far from Helios as you could get without leaving the IT. “All those farmers, they don’t trust banks,” he had said, leaning forward and dropping his voice. Sloane hung on to his every word. The itinerant prospectors she’d known had hoarded what little cash they had, afraid that putting it in a bank would result in taxes, in fines, in who knew what else. “So they just keep all their cash in their houses,” Griffith continued. “And I know one where it’s just a rich old man living by himself. Richest old man in the area, apparently. So we get ourselves an alibi◦– I already got one cooked up◦– and we zip over. Grab the cash, get back to Helios, and take the very next transport out.”

That morning, over their pancakes, the two went over the plan for the last time.

“New Tahiti by tomorrow?” Sloane asked.

"New Tahiti by tomorrow," he said. "Only, baby, no witnesses." Sloane shrugged.

Jen and Hershel made their separate ways home that night. Jen spent the afternoon studying for a calculus final with a friend in the school library, and Hershel hitched a ride home with a teammate on the school's varsity baseball team. Jen finished late, and her friend tried to talk her into staying in Riccioli for the evening, but Jen's father had called earlier to say a promisingly large envelope had come for her from another college, and Jen wanted to get home and open it. Her friend, who had known Jen since the fifth grade, would never forgive herself for not insisting that Jen spend the night. But Jen insisted, and took the bus back to Hartmann where she was given a lift home by Mychael Ticoe, a family acquaintance who happened to be passing by when Jen stepped off the bus. He drove them slowly along the darkened avenue of plane trees, wary of hitting rabbits or deer, and dropped Jen off in front of the house◦– waiting until she opened the door and waved at him before putting his car into reverse and driving away. He recalled nothing unusual about the house. It was ten thirty.

At about 2.30 am, the small hours of Friday, November ninth, Alvin Go got up to use the bathroom. Go lived in a cabin approximately two kilometers to the east from Blackacre, down a long, tree–lined drive. He remembered well that the dark living room of his cabin was lit with a soft greenish light, that he looked out the window at the pale glow coming from the west and wondered at it. "There were no clouds in the sky," he said later. "But I didn't think too hard about that. I was glad I was awake to see it. I just thought it was the ashen light."

## *II*

That Friday, the ninth of November, 2519, was another gloriously bright day on the high plains of Ishtar Terra. Before the activation of the dynamo in 2392, Venus had the slowest rotation period of any planet in the solar system. A Venusian day lasted two hundred and forty–three Earth days, nearly twenty days longer than the time it took to complete an orbit around the sun. Activating Venus' dynamo required solidifying some portion of the entirely liquid core of the planet, and restarting the convection of liquid iron from the core to the surface◦– the geodynamo◦– and the creation of an artificial atmosphere◦– the Overdome. Activation, it was proposed, would speed up the planet's rotation, creating not just shorter days but, eventually,

a self–sustaining atmosphere. Twenty–five years after activation, Venus' rotation period was a quarter of what it had been: approximately sixty Earth days. The Overdome was programmed to simulate a conventional Earth sidereal day of about twenty–four hours, but some concession to Venus' unique rotational properties, it was felt, must be maintained. Venus is the only planet in the solar system to rotate in a clockwise direction, so that, to a person standing on the planet's surface, the sun appears to rise in the west and set in the east. The Overdome was, therefore, set to mimic the same pattern; on Venus, now as then, the sun appears to rise in the west and sets in the east.

The Keck children were not standing outside waiting when the Goyas pulled up to the family farm at 6.50 am, on Friday the ninth of November. It was early, and the shadows the farmhouse cast were long, stretching east across the gold and brown fields. Alia hopped out and rang the doorbell several times, but to no avail. She tried calling both Jen and Hershel, but both times got only their voicemail. Although the Keck children were dependable, it was not entirely unreasonable to suppose that something unexpected had happened◦– perhaps Shelly Keck's elderly mother had taken sick in the night, and the family had left without thinking to let the Goyas know. Or perhaps there had simply been a prior engagement◦– they'd had to leave unusually early, say◦– and they'd neglected to mention their plans to her. Alia got back into the car and drove to school with her mother.

Both Jen and Hershel were absent from school that day without an excuse. When the school's secretary called their mother, the phone went straight to voicemail. The secretary made a note to call again on Monday.

No one saw Shelly Keck in Hartmann all day Friday, but that was not, in and of itself, notable. Keck's visits to town were regular but not so frequent that she was missed. And her husband rarely ventured off the Keck property; no one remarked his absence.

It wasn't until Monday the twelfth of November that anyone became concerned. The Goyas called before driving to Blackacre, and again got only voicemail. Both mother and daughter left concerned messages, but did not drop by the farm on their way to school. The Keck children were, again, absent without excuse or explanation; the school secretary called every phone number she had for the Keck family, and received no answer. Most alarmingly, perhaps, was when Shelly Keck missed a council meeting on Monday evening. Shelly, who had never missed a single appointment for anything, as far as anyone could remember, was a no–show.

Friday the ninth of November found Sloane and Griffith disembarking from an all–night transport to the AT. Caps from the transport hall's CCTV show the pair red–eyed and slouching, staggering as though very tired. Neither carries much baggage.

They landed at the major transport hall in Eos, Griffith's hometown, and made their way to his family's motel. His parents and one sibling remained at the Eos Express Inn, his mother and brother operating the rundown little motel to the best of their abilities while his father, half–paralyzed by stroke, spent his days propped up in their private quarters, watching TV. Griffith introduced his family to Sloane, and promised to repay them the three hundred dollars he'd borrowed three years earlier. His mother in particular noted how "high on themselves" the pair seemed. Sloane in particular "wouldn't stop talking about New Tahiti. How they were going to go there and stay as long as three months, or maybe forever." When questioned as to how the pair could afford such an extravagant trip as Sloane proposed, Griffith smiled his big, bright, handsome smile, and told his mother not to worry about it.

The couple spent four nights with Griffith's family. The first day there they vanished for about an hour, taking their luggage with them. Griffith claimed he wanted to show Sloane around the motel complex. His mother remembered that they had very little baggage despite having been living on another continent for three years and, she noted particularly, almost no clothing. Griffith took showers almost compulsively during his stay in Eos, she recalled, three or four times a day. "And they were tired, both of them," she maintained. "Slept twelve, fourteen hours that first day."

On November the thirteenth, Griffith borrowed another four hundred and fifty dollars from his mother and took off, Sloane by his side. She didn't expect to hear from them again anytime soon, or to see the money she'd given him. "But he's my son," she said. "I gave him what I had to give."

On Tuesday, November thirteenth, at 8.15 am, the secretary at Riccioli High School called the county sheriff, Jamee Philips, to report the continued truancy of the Keck children. The day before Philips had taken a call from Mrs. Hope Goya, the band teacher at Riccioli High, reporting that she and her daughter were concerned about the inexplicably unreachable Keck family. By 9.30 that same morning, Sheriff Philips was pulling up the long, plane tree–shadowed drive that led to Blackacre.

Sloane and Griffith arrived in New Tahiti on Tuesday, November thirteenth, on a 4.32 pm transport. New Tahiti is, as the name

suggests, a chain of spectacular resort islands off the coast of the AT, modeled to resemble their eponymous Earth siblings. Although the archipelago, designed and built at astronomical cost in the middle of the twenty–fifth century, is currently in dire economic straights, it was, in 2519, still a compelling vacation destination for a certain socioeconomic class. For Sloane Deeds, who had known only the rocky mountains and endless plains of the IT, New Tahiti represented the greatest achievement of human endeavor. She had dreamed of the turquoise seas and balmy tropical warmth the nights she spent shivering in the Maxwell Montes, imagined herself living in a place where perfectly ripe fruit with names from a fairytale◦– mango, persimmon, breadfruit, cloudberry, starfruit, papaya◦– could be plucked from the trees if she grew hungry. A place where she could spread a blanket across sand as white as sugar and fall asleep in the sun; where she could float among a million tropical fish with extraordinary names: clownfish, manta ray, golden shark, butterfly fish, flying fish, electric eel. For years Sloane had cherished two small notebooks, filled with lists of words: the names of flowers, of constellations, of cities in Europe, in Asia, in Australia. Her handwriting, round and childishly uncertain, began to fade underneath the repeated thumbing of the pages, for she would read her lists to herself, whispering the names, until she had them memorized, and then began again.

Griffith, who liked to read and was proud of his vocabulary, generally spoke to Sloane, as to everyone else, in a mannered and slightly pretentious fashion. He encouraged Sloane's recitations, telling her that she was a true innocent, a daughter of nature, filled with an unsullied childlike wonder. He would recite poetry to her◦– Kerouac and Tettenar and Ginsberg, Bukowski and Gorail and Khayyam◦– to which she would listen with sparkling eyes, forever uncertain about what such a man could find to love in her. And yet Sloane absorbed Griffith's gentle condescension, believed him when he told her she was purer than any other girl he'd ever known, that her upbringing, rough as it had been, made her real in a way other people couldn't ever be◦– people who passed their long, empty days unaware of the preternatural wonder of the Venusian world. "We're living on a planet that couldn't support life for billions of years," he told her one evening. "The days and nights aren't even real; they're an lie, a lie within a lie. Everyone here lives these tiny lies all day long, thinking their petty lives and jobs and cares and thoughts and worries matter, and all of that within this one bigger lie. This willful delusion that day and night are the same here as they were on Earth. And all of these things together make them think everything matters. That it all means something, baby. Except we know the truth. We're the only

free ones on this whole planet, because we see through the deception. Every time we look up at the sky we know it's a lie.

"None of the rest of it matters. Whether they live or die, they don't matter. We know we don't matter either. And that gives us freedom none of the rest of them will ever have."

They were lying on a beach, exactly as Sloane had imagined, a warm breeze washing over them, while they gazed up at the deceiving sky.

"We're the only ones, baby," Griffith said. "The only real things on this whole lying planet."

The front and back doors to the farmhouse was locked, and the windows were unbreakable. Philips had signed out the Keck override key◦– a key to the house that Shelly Keck had deposited for safekeeping at the Hartmann police department, in keeping with local custom◦– before heading out to the farm. It took her only a few moments to get the front door open. She unclipped her holster and put her hand over her gun, then stepped inside.

The front room was neat, and empty. "And it smelled empty," Philips still recalls. "A little like walking into an antique store. Full of things, but nobody lives there." Philips called out Shelly's name softly, then Franz's, then the names of the children, to no response. She moved slowly into the big dining room, stepping carefully, an intruder in a sacred space. The table was clean and set neatly, awaiting the next meal. Philips moved into the kitchen. There were no dishes in the sink. She used a towel to pull open the dishwasher. It was half–full, and the dishes were dirty. There was no moisture, no humidity emanating from it. It had not been run for several days. Philips closed the dishwasher again. She stepped around the small kitchen table and kicked something. Leaning down, Philips could see a purse◦– Jen's, she thought, judging from the patches and pins on it◦– lying open and half–hidden in the shadow beneath the table. Philips did not touch it.

She left the kitchen and walked down the long hall to the stairs. There she paused, her hand still hovering over her gun, and listened. There was nothing to hear beyond the settling of the house, the faint whittering of a bird outside. She walked up the stairs slowly, letting each step absorb her weight, carefully and deliberately. She had been to the house before, but never on the second floor. She was not certain of the layout.

The stairs led to a landing illuminated by a large window, curtained with a light and flimsy gauze that let soft, grey daylight through. There was a long hallway, with several doors, all closed. The nearest was one of the children's; it was festooned with band stickers and warning signs. Philips stopped before it and listened◦– again,

nothing◦– then took a pair of latex gloves out of her pocket and pulled them on.

She could smell it as soon as she pushed the door open, old blood and flesh just beginning to decay. Jen Keck lay in bed, curled up on her side, her blankets drawn up around her shoulders. Half her head was gone, splattered across the walls and the pillow. Hershel was in the next room, seated cross–legged on the floor, leaning against his bed at a drunken angle. His hands and feet were bound, and tied to the bedpost. He was wearing a white t–shirt and boxers, both covered in flaking, rusty brownish–red where he'd bled to death after his throat had been slit.

Franz Van lay on the bed in the master bedroom, atop the covers, bound as his son had been. His eyes were frozen open. He had been shot at point–blank range through the left temple.

Sheriff Philips had tried to call the homicide in upon first entering Jen Keck's bedroom, but had found she couldn't get a signal. She continued through the house, room by room. Shelly Keck she finally found in the ground–floor study, a room Philips had forgotten about during her initial movement through the house. Keck lay slumped in a corner in a dried puddle of blood, having been shot at least twice. Keck's hands were raw and twisted and the post–mortem would later reveal that her fingernails had been torn off and her fingers broken before she died.

Finally, having explored the entire house and found nothing except the four bodies, Sheriff Philips stepped outside and made her call. She went over to her car and sat on the passenger's side seat with her head in her hands while she waited for the response unit to arrive.

Later, after the scene had been photographed and modeled and the bodies removed, the forensics team began its long and thankless task, gathering the hundred million shreds of DNA◦– strands of hair, flakes of skin, eyelashes, traces of blood, of sweat, of saliva, of semen, dried mucous, brain matter, fecal matter◦– that had drifted about the house and grounds to settle in cracks and corners and the quiet, dark spaces. They found DNA from more than five hundred and fifty discrete human beings, an astonishing number of people to have left evidence of themselves in an isolated farmhouse on the edge of the Lakshmi Planum. There were, moreover, no fewer than ninety–eight usable finger– and palm–prints from separate people and fifty–seven different sets of footprints, as well as traces of twelve unique tire–tracks on the driveway. Even using the planet's central biometric database, the majority of the DNA evidence could not be easily identified.

There were no shotgun casings◦– the killers must have removed them◦– and the knife used to slit Hershel Keck's throat could not be found.

The forensics team did find something, however; something Philips specifically asked them to search for. At six separate locations outside the house, nestled up against the wall, the forensics team found powerful, non–brand, professional–grade dampers◦– those clever little machines that schools use to block radio and electromagnetic signals from wireless devices, preventing their students from calling or texting or in any way interacting with each other or with the outside world when they should be listening to their lectures. Back in the forensics lab at Riccioli, it was discovered that the six dampers interfaced in such a way as to emit a pale green glow.

## *III*

Ashen light is the name a seventeenth–century astronomer gave the soft, greenish glow he detected emanating from the dark side of Venus. Although a number of astronomers, both amateur and professional had, over the centuries, claimed to observe the ashen light, sightings remained rare enough that it was generally considered a fluke, a phantom of wishful thinking and unrelated, easily explained, phenomena. An early observer argued that the light came from the fires Venusians lit to celebrate the crowing of a new emperor. Once it was determined that Venus was neither habited nor habitable, and, in fact, that its atmospheric composition was so inimical to life as we understand it that it is improbable to the extreme that biological life ever existed there, other hypotheses were proposed to explain the occasional soft green glow of which some few observers caught sight. Perhaps, some suggested, it was caused by carbon dioxide being torn apart into carbon monoxide and oxygen, the process of which splitting emits a faint green light. Or, it was proposed, the greenish light could have been nothing more than the glow of lightning from Venus' many electrical storms, diffused through carbon dioxide and nitrogen clouds that suffocated the planet pre–activation. Whether the effect was even real remained a topic of heated debate well into the twenty–second century.

When the dynamo was activated and the terraforming project began in earnest, a strange and entirely unexpected effect was noted. Although the planet's atmosphere, both real and artificial, was configured to resemble the Earth's, something about the way sunlight refracted off the Overdome meant that, very rarely, on dark, cloudy nights, a faint greenish glow could be seen on the horizon. Papers

were written, doctorates were awarded, and academic conferences were convened to discuss and dissect the new ashen light, but the majority of Venusians cared not one whit about official explanations. They were content in the knowledge that Venus' Overdome, the greatest feat of engineering in all human history, which was otherwise wholly invisible, had this single, rare, beautiful manifestation. That it was something unique to their planet. To them.

The Keck family, Riccioli's forensics team determined, died several hours after they'd first been tied up. To this day, Alvin Go, the man who lives in the cabin east of the Keck family farm, who couldn't sleep the night they died, who looked out the window and congratulated himself for having been awake to see the rare glow of the ashen light, says only one thing. "If I'd have known. If I'd have had any idea. Maybe I could have saved them.

"But I thought it was the ashen light."

For a while, Sloane and Griffith lived well in New Tahiti, having taken a secluded cabin on an atoll well away from the busier tourist resorts. They coexisted peacefully for three and a half weeks, Sloane sunbathing and swimming and wandering the little island, running her fingers across the lush green leaves as she passed through the jungle, whispering the names of the plants to herself. There's a photo of her from this period, recovered from Griffith's phone, showing a small woman in a bikini standing thigh–deep in unnaturally blue waters, her face glowing with joy. When the money ran out, Griffith, already bored with island life, proposed they find a mark at one of the resorts◦– a rich old woman, he suggested, who might be interested in maintaining a healthy and handsome young man for some period. Sexual jealousy was beneath the two of them, he reminded Sloane; the province of middling, lesser people who cared more about possessions than about freedom. Sloane acquiesced more or less gracefully, unwilling to be parted from Griffith. But once they'd returned to Tiare, New Tahiti's primary island, Griffith found inveigling his way into the good graces of a wealthier older patron more difficult than he'd imagined. It fell to Sloane to take up the casual prostitution that paid for their cramped two–room apartment on the outskirts of town while Griffith slipped around the resorts during the day, creeping into empty rooms to rummage through colorful baggage for money and valuables as the tourists to which the luggage belonged snorkeled, oblivious, off the coast of Tiare.

The first lead came from the dampers, which yielded no fingerprints or DNA evidence, but proved to be the property of three

different institutions, all in or around Helios. Over time, too, the forensics team accumulated enough data to indicate that the majority of DNA found at the scene of the crime but not connected to the Keck family or any regular visitors to the farmhouse could be traced to hundreds of people who had, at some point in the recent past, been in Helios. Much of the hair, moreover, had the blunt edges characteristic of recent cutting. Philips' response unit, with Philips taking lead, went to Helios in early January 2520, to begin the arduous task of visiting Helios' seven hundred and twelve salons and barber shops to request security footage. They were able to locate the correct salon, an establishment serving commuters on the edge of Helios' financial district, within ten days. But there the trail went cold. No security cameras had caught anything in the least suspicious, and Sheriff Philips wasn't sure what gender the Keck family murderers were, much less how many people had been involved in the killings◦– although she felt reasonably certain there had been two.

Philips had arrived at the conclusion that two people had murdered the family on a hunch: the blanket drawn over Jen's corpse. The ropes binding the bodies◦– Jen had also been bound, they discovered, when they pulled the blanket away from her◦– had been tied with the same type of knot, and three of the murders had been carried out with the same weapon, probably a 12–gauge shotgun. But the act of kindness toward the teenaged girl, and the ragged cut had that severed Hershel's jugular, suggested to Philips that there were multiple perpetrators.

The second lead came from a call Philips received two weeks after the murder of the Keck family. A middle–aged couple, Alice and Farouk Smith, who'd left their hometown on the southern edge of the Lakshmi Planum three weeks earlier to take a much–anticipated cross–planum vacation, had never come home. Three days after the Kecks were killed, the couple was found stuffed into the handicapped stall of an isolated roadside rest–stop. The husband had had his skull crushed with a heavy, jagged object◦– likely a stone◦– and both had been strangled. Time of death was determined to have been somewhere between 2.30 and 4 am on Friday, the ninth of November. Their car and possessions were missing. Ten days after the Kecks were killed, a passenger manifest for an IT/AT transport pinged; the couple had, apparently, taken a transport to Eos on the AT several hours after their deaths.

The team investigating the Smith murders learned that, all told, the killers had made off with their car, their clothes, and a card with a $7000 credit limit. $275 had been spent on the transport to the AT; from there, the trail went cold. The lead detective on the case, Coulter Russell of the IT regional police, was forced to let the case lie fallow.

Three months passed between the night the Keck family was murdered and the morning that Griffith's mother, Elin Sinkman found a wallet on her property, the grounds outside the Eos Express Inn. Although the wallet itself was empty, it was microchipped; when Mrs. Sinkman dropped it off at the local library and the library personnel ran it through the scanning database, an alert was triggered. Within twelve hours detective Russell had flown down to the AT to take Mrs. Sinkman's statement. The wallet had, as the alert notified Russell, belonged to one Alice Smith, late of Bastet, Lakshmi Planum, Ishtar Terra; murdered on or about 3.30 am, Friday the ninth of November, 2519, by person or persons unknown. Apparent motive: robbery.

Mrs. Sinkman had a son, Russell learned. By curious coincidence, that son had been the part–time employee of a down–market barber shop implicated in another unsolved case: the murder of Michelle Keck and her family on or about two am, the ninth of November, 2519, by person or persons unknown.

Russell and Philips met on February twenty–second, 2520, at a small bar in Helios, IT. They exchanged notes on their respective cases, discussing the hunches and proposals they had not included in their official case–files. Russell had also generated a detailed report on Griffith Sinkman, and in the course of the investigation into Griffith's background and movements turned up not only his three–year stint in Garden City, but that he had, at some point after his release, travelled to the IT and begun travelling with a young woman, identity unknown.

When, three days following their first meeting another of Alice Smith's microchipped belongings set off an alert, this one on the resort island of Tiare, in New Tahiti, Russell and Philips took an emergency transport to the AT. Within seven hours of the alert the two and their combined response team was stepping off the inter–AT transport that moved between Tiare and the mainland. Sheriff Philips had never been to New Tahiti before, nor has she been since, and recalls with perfect clarity the island's strange atmosphere. "It was the most beautiful place I'd ever seen," she recalls, "warm and sunny and incredibly green. The ocean was so clear you could see the fish swimming in it. But a quarter of the hotels were closed◦– these huge, beautiful buildings just shut-up walls and chains and barbed wire. All that potential just dying on the vine."

Russell and Philips traced Griffith to a small apartment on the outskirts of Tiare. Images of his companion, clearly the same woman with whom he'd travelled to the AT the night of the Keck murders, was identified as Sloane Deeds, only suspect in the stabbing death

three years earlier of a man named Brackett Jones, a store–owner in a small town on the slopes of the Maxwell Montes.

Russell and Philips tracked the pair down and observed them for two days before making their move. Griffth Sinkman, they learned during those forty–eight hours, was restless, getting up early to wander about the resort–town and spending the better part of every day away from his partner. Sloane Deeds, however, seemed more or less content to spend her days sunbathing on the beach.

They arrested Deeds first, approaching her as she lay napping on a red towel. A team of twelve armed officers surrounded the sleeping woman, Philips taking lead. When Philips said Deeds' name, the young woman sat up, observed the twelve officers with their guns trained on her, and said "well, okay then." She gathered up her things and went without a struggle.

Griffith Sinkman proved more problematic to arrest. Russell and his team descended on Sinkman as he was leaving a small diner; Sinkman ran. It took three shots to bring him down; none fatal. He was transported to a local hospital where his condition was stabilized. In the days before Sinkman was well enough to be transported back to the IT, Philips and Russell went through the couple's meager belongings: some clothing, a piece of jewelry identified as belonging to Jen Keck, and seventeen dollars in cash. A response team sent to the Sinkman family motel outside Eos discovered the charred remains of more clothing, tentatively identified as belonging to Alice and Farouk Smith.

## *IV*

The two were tried separately. Griffith Sinkman pled not guilty by reason of insanity, the prosecution now faced with proving beyond a reasonable doubt not only that he committed the crimes, but that he did so with a full and complete understanding of the difference between right and wrong, an ancient but still robust legal definition of sanity. Sloane Deeds pled guilty to four counts of murder in the first degree. When informed that she would be eligible for the death penalty even if she gave a full confession and implicated Sinkman in her crimes, Deeds shrugged. Although she had given complete and entirely useable evidence of both Sinkman's sanity and his guilt during her own arraignment, the prosecution at Sinkman's trial put her on the stand to give her testimony in person, believing that having her describe the murders in front of a jury would be more powerful than merely reading aloud her confession for the record.

The entirety of her testimony was recorded and broadcast in near–delaycast to an audience of four billion.

"It started in 2016, I guess," she begins. Her voice is flat, steady. "I had just come off the mountain, and was trying to get to Helios. I only had a few bucks, but I figured men are men anywhere, so I could get there somehow.

"I was standing by the side of the road when this car pulls up, and he◦– Griffith◦– is behind the wheel. He asked me if I wanted a ride, so I said sure, and where he was going, and he said wherever I was going. So that's how me and him hooked up.

"We palled around for three years, more or less. We didn't ever have any steady jobs, but we'd get part–time work here and there, and case joints to steal stuff. We moved around the IT a lot. Every time somewhere got a little hot for us, after we'd been there a while, we'd pack up and move on. We changed cars a lot; we'd steal a car then switch out plates, then switch them out again. It's easy if you know how to jack the plate operating systems, which Griff did, and he showed me, so we did it all the time. I guess he learned up in Garden City.

"Griff liked the IT a lot, because it's so big and empty and we could just move and move, but sometimes we were living on nothing at all, and I was getting tired of it. Every time he talked about the AT, about all the casinos and stuff, I'd be like 'I want to try it there.' I never been off the IT before, and the planum's about as boring as the Max mountains. I wanted to see a real city, and go someplace fun, but Griff was always like 'it sucks just as much there as here, and they're all big fakes, and it sucks even more if you don't have any money, and here it's easier not to have money' so we never went.

"And then finally I got real tired of it, and all his crap about how we were 'realer people' than everyone else, like being poor was this noble thing, and I told him I was going to go no matter what, and he could come or not. He was like 'I've been poor my whole life!' but he's full of crap. I've seen where he lived, and he went to college, too. We had a big old bust–up about it and then a couple days later he said he was sorry and I was right, it was time to leave the IT, and explained that when he was down at Garden City he met a guy who had been a worker out on the farms all over the IT. He said how people there don't believe in banks so they keep their money in the house in cash, and it was a real cinch to just knock over a house and make off with all the money, and it was pretty untraceable and everything. So this guy in Garden City had worked out in this town in the middle of nowhere, but everyone was super well–off, and in particular there was this old guy who was super, super rich and kept all his money in a

safe in his office at home.

“So Griff said we should go knock over this old guy. He◦– Griff, I mean◦– knew all about the old guy, because he’d made the Garden City guy tell him everything, like where exactly the house was and how to get there. And we went to the library and learned all about the town, Hartmann, and studied maps so that we knew how to get there and back again, all the different ways. And he got a job in a salon in Helios so that he could collect random hair DNA so we could confuse the crime scene. He collected it over a long time, because we planned carefully and took our time to make sure we got everything right. We stole dampers from all over, a few from Helios and one from somewhere else, even, and rigged them up to work together so the old guy couldn’t call anyone while we were robbing him

“And we set up an alibi, too. There are some homeless guys who sleep outside the [Helios] city hall and Griff started sleeping there at night, ‘cause there’s a camera that watches them and they all sleep huddled up, and he got good at joining them and then slipping away so you couldn’t see he wasn’t there anymore. I used to watch him to make sure he was doing it right. And I went into one of those all–night moviedromes, but it was one with a broken window, so I’d be recorded going in but I could sneak in and out without anyone seeing.

“So we decided on a night. It wasn’t supposed to be that night [Thursday the eighth], because Griff wanted to do it on a Friday thinking no one would notice anything if the old guy didn’t show up anywhere over a weekend, but the night we picked out to do it we got into an argument and so we didn’t go. Then when we made up Griff was like ‘we got to do it now, I’m tired of this place’ so we just left. That was that Thursday, I guess.

“We stole a car and then exchanged plates every two hundred kilometers. It took us four hours to drive to Hartmann, and it went perfect. We drove through the town, and Griff was like ‘there’s the school, turn right at the hardware store, three kilometers past.’ We came to the tree–lined drive, and it was dark as I ever saw. We killed the headlights once we were out of town and drove slow, but we didn’t see a single person. The town was totally empty, and there wasn’t anyone on the roads, not one person. So we drive slow down the tree–lined street, and as we pull up we can see the house in the sort of dim light. It was huge and white and looked real cozy. Griff keeps saying ‘look how big that fucker is; this old fart must be loaded.’

“We pulled off the driveway a little and got out really quiet, but couldn’t hear a thing. So we snuck around and put the dampers out and set them off, and it was the most beautiful thing I ever saw, to watch them do their thing. They buzzed a little then this green glow spreads up and out from them and meets up and then there’s this soft

green light shaped like a bowl, covering the whole house. I could put my hand through it like it was the ocean. I told Griff I didn't know it would make light but he said we were super far from anyone else and if anyone saw anything they'd think it was the ashen light. So we went inside.

"We had a shotgun Griff made from three different guns. He said it would mess up the ballistics. We had a knife, too. I think it was one I stole from somewhere. We go in and there's a nightlight shining, so we kill it; just unplug it. I pull out my phone and sure enough, no signal, so we know the damper's working. No phones, no computers, nothing will get signals out. We have little flashlights, but we don't need them because of the green light coming through the windows.

"We had decided before to find the old guy first and make him tell us where the money was. So we walk around the ground floor really fast, to make sure there's nothing obvious, and find the office, but can't see a safe or anything. So we go down the hall and toward the stairs, and I'm first, and as we walk toward the stairs I look up and I see someone standing there at the top of the stairs. There's a window there and the green light is coming through bright enough to make the outline of the person really clear. It doesn't look like an old guy. I stop and look up, and the person freezes and looks down at me, and then sort of slips away, out of the light, so I grab Griff and we go upstairs.

"The first door has stuff all over it, but there's no lock. We go in and there's this girl standing there in the corner, by the window. I didn't know why she didn't break the window or anything, but I guess it was unbreakable glass. She had her phone in her hand but of course it wasn't working. She sets it down asks what we want and Griff says, really nice, we're just there for some money. She's also being really nice and says 'we don't keep money in the house,' but Griff tells her it's okay and says he needs to tie her up so he can check. She's like, 'okay,' really cheerful, and she's really scared but trying to be nice. So Griff ties her up and puts her on the bed, and we leave her.

"So we know there's more than an old guy in the house now. The next room there's a boy sleeping, and he sort of wakes up when we come in and shoots right up out of bed, but Griff points the gun at him and tells him to sit, and we tie him up and gag him next to his bed.

"Then there's the big bedroom, and two grownups sleeping in it. We wake them up really gentle and tell them we're there for the money and we're not going to hurt anyone. The woman says 'there's no money,' just like the girl, and the man pissed his pants. We tell the man to show us where the safe is, because we know there is one, and the woman keeps talking, like saying that there's no money and no safe but she can give us all the credit she has and won't report us or anything and I can see Griff is getting real unhappy. He always gets

jiggly when he thinks someone is lying and he was, like, bouncing now. So we tell the man again to show us where the money is, and the woman is still like 'he doesn't know anything, please talk to me and I can help,' so we tie the man up to the bed and take the woman downstairs to the office. The entire time she's talking to us real calm, saying she'll give us whatever she can, and to take anything in the house, but obviously we're not going to do that because it'll all be chipped. We pass by the kids' rooms and she says can she see them to make sure they're all right and tell them to be good, but we say no.

"We take her downstairs into the office and I can see Griff is getting super freaked out now, because he hates it when things don't go exactly the way he planned, and you can see she can see he's freaking, but she stays totally calm and walks around the room being like 'there's nothing here, nothing behind the picture, no secret places or anything' and I was like 'ugh, Griff, this is stupid, let's just go' and he's all 'no, no, she's lying I know it's here,' and I didn't want to be all 'maybe the guy at Garden City was full of shit' but obviously this wasn't some old fart with a mattress full of money, but a whole family. And I can see she's starting to get really scared as we're talking, I guess because we're using our names, and everyone knows you don't do that around someone unless you're going to kill them. And anyway Griff is almost screaming now he's so pissed. And then he hits her, and I'm like 'I don't want to see this,' so I leave and walk around the house and look for stuff. I find a purse and there's a couple of bucks in it, so I take that. I can still hear Griff beating up on that woman, she starts making more and more noise. You could hear everything in that house, it was so quiet, and then finally I hear the gunshot.

"I go back into the office and she's a mess in the corner, and Griff's standing there, so I take the gun and go upstairs. I go into the girl's room and she starts by saying 'what'd you do to my mom' and then she starts crying and I shoot her. I look around but there's nothing to take in her room, so I leave. And then I feel sorry for her because we told her it would be okay, and she's like my age. So I pull the blanket over so it just looks like she's sleeping. Griff's in the boy's room and has already killed him, though he's not dead yet when I go in. Griff's sort of tearing around looking for valuables so I go kill the father while he does, 'cause I do it faster and I didn't want him to suffer any more than he had to, already hearing his wife and kids go. While I was looking around the house earlier I saw all their pictures and stuff, and they seemed pretty nice, even though Griff always calls people like that fake bourgeois pigs. I didn't see that they were any worse than anyone else, though.

"So we cleaned up around the house 'cause Griff really tore it

apart, and left all that hair Griff had collected and picked up the shell casings, but we never found any money. When we finally leave Griff is so freaked out he's just, like, 'get in the car, we gotta go, we gotta go,' so we left the dampers.

"We drove out of town on a different road than we came in on, and I noticed when we were leaving that lots of places had long tree–lined drives, so maybe we hit up the wrong place and the old fart with all the money was still out there or whatever. As we drove back to Helios we took the gun apart and threw it out the window at different points. And like an hour or so after we saw a car pulled up at a rest–stop and Griff said 'let's pull up real quiet and see what's there' and there was a couple asleep in it so we tap on the window real nice and wake them up and say our car stalled out, and when the guy gets out to help jump it I smashed his head in with a rock and then we killed them and put the bodies in the bathroom. They had a lot of stuff in their car and some cash, six or seven grand, so we took everything and split up, and I drove the new car following Griff and then we ditched both outside Helios in a bad part of town and I went back to the moviedrome and Griff went back to the hobos and we pretended to wake up the next morning so the cameras could see us. We split up the stuff we got from the people in the car and fenced it for some more money and then got the first transport to the AT. When we finally got to Griff's family's place I was so tired I could die. We slept for, like, ever. Then we walked around and hid the stuff from the couple in the car that we couldn't fence that probably had chips. And then later we went to New Tahiti."

A question from the prosecution. Deeds is silent for a moment.

"Probably about twenty bucks," she says.

Evidence of Sloane Deeds' years of profound abuse, of Griffith Sinkman's terrible injuries, sustained during the helibike crash in which he'd been involved seven years earlier, were not deemed sufficiently compelling to suggest even diminished responsibility, much less insanity. On February twenty–first, 2521, a little more than a year after they'd killed six people in the space of about four hours, Sloane Deeds and Griffith Sinkman were sentenced to death. They were sent to the Berkeley Maximum Security Prison, where they spent the next twenty–four years in neighboring cells on Death Row.

Reactivating Venus' dynamo sped up the planet's axial rotation rate over twenty–five years until it was a quarter of what it had been. From that time, the rotational increase stopped; Venus appeared to have settled into its new rotational period and the terraforming project continued unabated.

Sixty–three years after activation, however, scientists measured a tiny decrease in Venus' rotation rate. From that year the rotation period decreased by a fraction more roughly every two hundred Earth days, and showed no signs of stopping. The planet's liquid core was solidifying faster than anyone had speculated it would. The dynamo was decaying.

Newspapers declaimed the failure of man's greatest feat of engineering, but the group responsible for the terraforming took a more practical view of the matter. The planet was habitable, and would remain so for centuries, regardless of the dynamo's decay; there was no reason not to continue to colonize, to mine, to farm, and to maximize profits from the planet for as long as possible.

The night that Deeds and Sinkman killed the Kecks and the Smiths, Venus' rotation period was 97% of what it had been at peak rotation. Twenty–two years later, after they had exhausted the appeals process, the law banning capital punishment was found constitutionally unsound and overturned. Their sentences were commuted to life without parole and the two were sent to separate correctional facilities, to live out the rest of their lives as part of Venus' ever–growing prison population. Venus' rotation period was by then an alarming 94% of what it had been at peak rotation. A little less than three weeks later, a documentary about the Keck and Smith killings, containing all of Deeds' testimony about the murders, was aired. The documentary, funded by an extreme right–wing organization known as the Coalition for Humanity, inspired a huge public outcry and, in an unprecedented political coup, six of the ten death penalty–adverse justices were removed from office and six more conservative justices installed. The second case the new court heard was a death penalty case; within two years of Venus' death penalty having been found unconstitutionally inhumane it was reinstated ex post facto, meaning that the death penalty was reinstated for those Death Row inmates who had had their sentences commuted. They further decreed that all sentences be carried out within six months of being handed down. Deeds and Sinkman were sent back to Berkeley to await their executions.

Following a final appeal, this one by a left–wing human rights organization who argued that repealing the death penalty and then reinstating it constituted cruel and unusual punishment under the Interplanetary Convention on Human Rights, Deeds and Sinkman were scheduled for execution at midnight, Tuesday the twenty–sixth of April, 2545.

Detective Coulton Russell and Sheriff Jamee Philips were present for the executions. Russell, who was badly injured in a shoot–out in 2534, walks with a limp. Philips looks much the same as she did

twenty–four years earlier, whip–thin and a little stooped, although her hair is grey now. Both are retired. Russell moved to the AT in ’37, to live near his daughter and grandchildren, but Philips still lives in Hartmann, on a little property she bought fifteen years before. Following the executions, Philips drove Russell to Hartmann to visit the graves.

“Hartmann was never the same after the murders,” she tells Russell, as they stand in the little cemetery, looking down at the tombstones. “At first they thought it had to be someone in town who did it. Because who would come all the way out here, just to kill someone? And then, even after everyone knew it was random, that it even might have been an accident, people just couldn’t stand it. ‘It’s not the kind of place I want to raise my kids anymore,’ I heard that a lot. And then as the crops began to fail◦– well, that was pretty much the death–knell for this place. Lots of people left, for Riccioli, or for the AT, or even for Earth. They keep telling us the decay won’t matter for centuries, but you can already see it changing things.”

She looks away, across the sorghum fields. “The house went into foreclosure a few weeks ago,” she says, meaning the Keck family farmhouse.

“What’ll happen to it, do you think?” Russell asks. They move away from the Keck graves, down a path worn through the grass by hundreds of sight–seekers.

Philips shrugs. “Probably get torn down, I imagine.” She’s silent for a moment. “They built a meat–packing factory up on the other side of town couple of years back; everyone’s giving ranching a try now. Everyone who’s left, I mean. They’ll tear down the house and put cattle on the fields for a few years. Until the decay can’t sustain that anymore either, I guess.”

They stop before another grave, this one belonging to Alvin Go, likely Deeds’ and Sinkman’s intended target. “Is it true they found two million dollars hidden around Go’s property after he died?” Russell asks.

Philips chuckles. “Not quite that much.” A true–crime book, *For Love Alone*, written by a notorious Venusian novelist and published seven years after the murders, was the first to propose that Alvin Go, who lived in a cabin at the end of a plane–tree–lined drive adjacent to the Keck property, was the miserly old man whom the murderers had set out planning to kill.

The two complete their amble through the little cemetery and walk out to the road, where Russell’s car is parked. “Can I give you a ride?” he asks.

“Thanks, but no,” she says. “I can walk from here.” They shake hands and Philips watches Russell get into the car and drive away. She

waves at him as he pulls away, and can see his hand raised in response. Then, starting home, she walks toward the town and through it, leaving behind the big sky, the whisper of wind voices through the plane trees.

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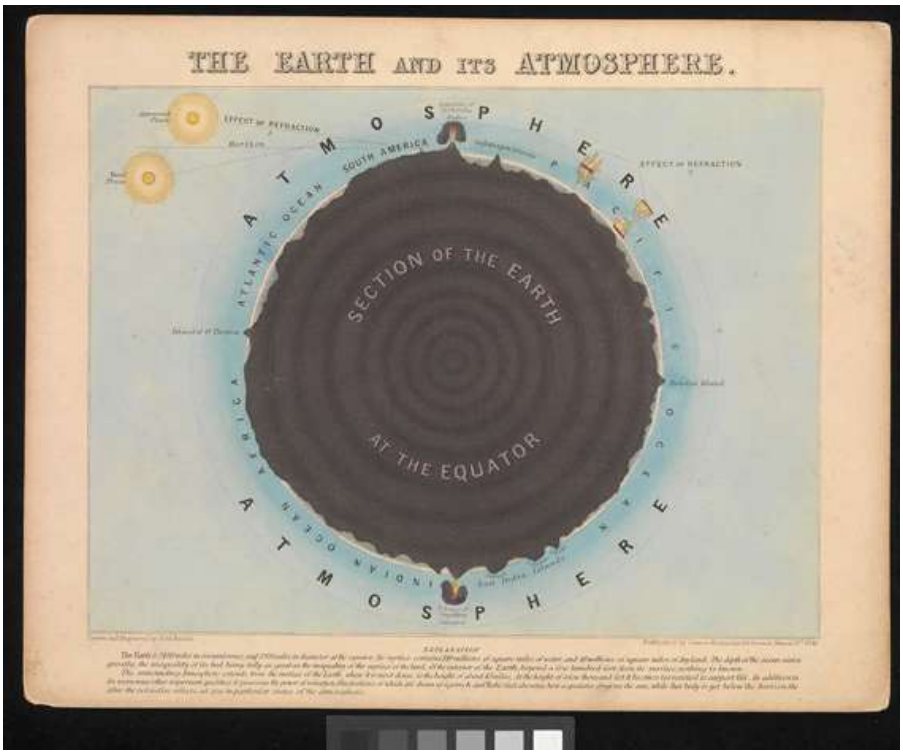


*I'd be making charts of the things I saw there, the dark stars and explosions. There'd be worms the size of trains. I knew it, despairing with desire. There were mysteries in the Earth, and wonders.*

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*Detail from one of a set of 12 hand-tinted astronomical prints with explanatory cards. This image represents a section of the Earth and its atmosphere at the equator, drawn by John Emslie and published by James Reynolds. The oceans and continents are indicated, as are some islands and volcanoes. (1846)*

# THE KRAKATOAN
## MARIA DAHVANA HEADLEY

The summer I was nine, my third mother took off, taking most of the house off with her. The night she left, I found my dad kneeling on the floor in front of the open refrigerator, and he looked at me for too long. He was supposed to be at work.

"What's wrong?" I finally asked, though I didn't want to know.

"No one's in charge of you," my dad told me. "No one's in charge of anything. Haven't you learned that yet?"

The cold fell out of the fridge like something solid, and I edged closer, hoping it'd land on me and cling. I was still vulnerable to the possibility that one of the mothers would work out.

"Alright then," my dad said. He left the ice cream out on the counter, along with the contents of his pocket: three charred sticks, one of them short, two of them long, and a list of dead stars, as in celestial, his specialty.

Then he went to work, driving in the dark up the spiral road to his job at the observatory. It was one of the great mysteries of the heavens that my father had been married three times. He only looked up, and he was awake all night. Each of my mothers had complained about this, and eventually I picked up some things about which direction you should be looking, and which hours you should be keeping if you wanted a woman to stay with you. I practiced eye contact. I practiced sleeping.

I ate the entire carton of Neapolitan, beginning with the chocolate. I visited the top of my father's closet, removed five *Playboy* magazines, and read them. I considered my three mothers, and compared them favorably to the naked women. I turned on the TV, and then turned it off. She'd taken the rabbit ears from the top, and now all we got was static. She'd taken the doorknob too. It was made of purple glass. When you put your eyeball up to it and looked in, it was like you'd arrived on Mars. I'd gotten a black eye that way, when she opened it accidentally into my face. Getting out of the house now required kicking and a coathanger pushed through the hole where the knob had been, and by the time I arrived outside, it was seven AM.

My dad was sleeping at the observatory. There were bunks. The astronomers were like vampires, slinking around under the closed dome until the sun went down, at which point they swarmed out to look at their sky. My dad had once referred to the solar system as *My Solar System*. He seemed to consider himself the sun, but he was not, and if he didn't know that, I did.

We lived at the bottom of Mount Palomar, where the spiral road started. If you stayed on our road, you'd eventually make it to the observatory, a big white snowball of a building on the top of the mountain, and inside it, a gigantic telescope. The observatory, with its open and shut rotating roof, was like a convertible car and the astronomers were teenagers in love with black holes. Their sky made me miserable. I wanted humans. There weren't many of them on the mountain, and my options were limited. I rarely went up. I went down, if I was going anywhere, and that day I went to Mr. Loury's house.

Mr. Loury's wife had, two years earlier, gone into the Great White Yonder. That was what my second mother, the hippie one who'd thought that astronomy and astrology were the same thing, had said about it. I don't think she'd ever seen Jaws. I didn't know what a Yonder was, and so in my mind, Mr. Loury's young wife dove into the mouth of not just a great white shark, but a megalodon, every night for months. Then she got chewed up, and at the end she looked like canned spaghetti. My second mother hadn't had much patience for a year of me retching over ravioli. I was pretty sure that was why she'd left.

Mr. Loury, with his attempt at a handlebar mustache and his short-sleeved button-downs, with his sadness, was a human fender-bender. I couldn't stay away from his property. Normally I paced the perimeter, feeling his woe, but today, I had woe of my own and it entitled me to trespass.

He was sitting on his front steps drinking a beer when I arrived, and I sat down beside him, like this was something I did every day. My face was on-purpose sticky with ice cream, and it was beginning to acquire a furry stubble of dust. I was no longer nine years old, but a grown man in misery. My third mother was the one with whom I'd long been significantly and hopelessly in love.

"Hey, buddy," Mr. Loury said. Not kid. This was progress. "Want a beer?"

I took one. No one was in charge. It was known by men the world over. There was comfort in the shared understanding.

Mr. Loury was an astronomer like my dad, or he had been, until his firing due to an attempted sabotage of the telescope. I didn't know the details, and didn't care, beyond the thrilling fact of sirens making their way in slow frustration up the curve of the mountain. He'd been to jail. Again, this called to me. It seemed he never slept. I never slept either. I stayed up all night reading, and during the day, I patrolled the mountain, checking for aberrations. I felt like I'd know them when I saw them.

Together, we watched the goings on of the spiral road, first a

rangy cat patrolling, and then Mrs. Yin, our local ancient peril, driving too fast downhill in her Cadillac. I didn't question the fact that it was seven in the morning and he was drinking already. It seemed reasonable. Some people drank coffee. Others drank beer. I was, I decided, a beer drinker. At last, Mr. Loury stood up, and looked at me for a moment, seemingly noticing for the first time that I was a kid. He waved his hand slightly. I thought he might be getting ready to send me home.

"My third mother moved to Alaska last night," I told him. "She's not coming back."

"My wife died," he told me. "That's like Alaska, but more."

I wanted to ask about the Great White Yonder, but I was worried he'd tell me too much, and so I didn't. I couldn't afford another summer of nightmares, the mouth of the shark opening and showing its chewed food like a cafeteria bully gone gigantic.

"Want to help me with a project?" Mr. Loury said. "A dollar an hour. Yardwork."

"If it's lawnmower," I said, negotiating. "I charge by the square foot." Lawnmowers weren't safe for me. My toes begged to be run over. There was a deathwish in me. One of my ears had been the recipient of eleven emergency room stitches. Hidden under the skin of my right knee, there was a jagged piece of gravel that seemed to have become permanent.

"Digging," Mr. Loury said. "Got a spare spade for you, you're interested."

*Spare spade.* I repeated the words in my head, a triumphant vision of myself at the bottom of a deep, dark hole in the dirt, looking up at a narrowed world.

Mr. Loury had already begun digging. He had a hole the size of a swimming pool, and a huge heap of dirt beside it. After an hour, the sun was high, and I yearned for the freezer, and the rocket-shaped popsicle I was pretty sure was left in there, amid the foil-wrapped unknowns.

"Why are we digging?" I asked Mr. Loury. I had a couple of ideas. One of them involved the burial of the Great White Yonder. I wondered if the stomach of the Great White Yonder still contained the body of Mr. Loury's wife.

Mr. Loury looked at me like I was very, very stupid.

"We're making a volcano," he said, jerking his head toward the heap of dirt, which I'd taken for beside the point.

I'd made a volcano once, in a science class, out of dirt, vinegar, red food coloring, and baking soda. It erupted in the car, and the screams of my third mother, caught in the lava flow, still echoed in my ears. She'd cried. I'd cried too, in mortification. I'd made it to woo

her.

"I don't think real volcanoes are made the same way you make fake ones," I said.

"This is how they made Krakatoa," Mr. Loury said, with certainty. "This is how they made Pele."

I thought about this.

"This is how they made the volcanoes on Mars," Mr. Loury said, and went back to digging. "Don't believe me if you don't want to believe me, but you can look through the telescope and see for yourself."

Volcanoes made on Mars. Volcanoes made on Earth. What if I could be one of the people who made volcanoes? What if this could be my career?

"*Who* made them?" I managed. I could hardly breathe.

"People like us," Mr. Loury said.

"On Mars? Martians?" I asked.

"Krakatoans, Martians, same thing," he said. "I knew it when I saw you. You're one of us."

I heard the distinctive sounds of my father's car coming down the spiral road. The brakes were failing, and so he kept an anchor in the passenger seat, attached to a rope, in case he lost control going downhill. I ignored the noise. No one was in charge, he'd said. If he wanted me home, he could scream.

I looked at Mr. Loury. He was offering me everything I'd ever wanted, and I was pretty sure he was about to laugh and take it back, the way adults always did.

"What are the volcanoes for?" I asked Mr. Loury, a last testing question. He eyeballed me. I swiped at my face with nervous, dusty fingers, but finally he nodded and surrendered everything.

"I wasn't sure you were ready for this, but you seem man enough to take it. They're observatories, but better. From inside a volcano, everyone knows you can look up. Almost no one knows that you can also look down."

It was not as though I hadn't been warned by my third mother about people who said things like this. It was not as though I cared. I was a goner. My dad, I imagined, would one day walk up the slope of this new volcano, and bend over to look down, startled to see me there inside it, my telescope aimed at the center of the earth. I'd be making charts of the things I saw there, the dark stars and explosions. There'd be worms the size of trains. I knew it, despairing with desire. There were mysteries in the Earth, and wonders. Even my own bellybutton, and the possibility that through it I might reach blood and guts, had been known to obsess me. Volcanoes were portals too.

My dad shouted for me from our front door, but I didn't move. He

increased volume and shifted to my full name. I didn't flinch.

Mr. Loury looked at me suspiciously.

"That you he's looking for?" Mr. Loury asked.

"Possibly," I said.

"I thought you were a boy," he said, and there was an edge to his voice now, a tightness. "You said you were a boy."

"I'm a Krakatoan," I said. Finally, with greed and great relief, I knew that I was one of something, part of a group. There was a destiny for me. My life wouldn't have to be this way forever.

"Your hair's too short for a girl," Mr. Loury said, still staring at me with an odd expression on his face.

"It got caught in a pair of scissors," I said, tersely. It hadn't been an accident. There'd been braids.

"Shit," Mr. Loury said.

"Shit," I replied, and threw another shovelful of dirt onto the volcano. I tromped it down with my bare feet, and spat on the new volcano section.

All the while, Mr. Loury shook his head, and muttered to himself.

"Volcano gods need sacrifices," he said, finally. "What are you going to do about that?"

"I have thirteen dollars in my piggy bank," I said. "You have beer."

"That won't work," he said, went inside his house, and slammed the door. "This one only wants boys. Don't you know anything about volcanoes? Don't you know anything about anything?"

His voice carried out into the yard, and it cracked at the end, with something I couldn't figure. I was repulsed by whatever it was. Crying was for babies.

I stared at his front door, kicked it once, and then went home to defrost something frozen. I asked my dad what Mr. Loury had done at the observatory to get himself fired.

"Said the sky was black and all the stars had gone out," my dad said. "Lost us a heap of funding, which is part of why we're where we're at now. Can't even afford a paintjob. You see how it's peeling."

"And so they took him to jail?" I was startled. My dad snorted.

"No. Rick Loury went to jail because he commandeered the telescope, and tried to crash it into the floor. He thinks there're stars inside the earth. He lost his wife, and then he lost his funding, and then he lost it."

Whatever it he'd lost, I wanted to find it and keep it for myself.

My dad was making another mark on the wall. There were three of them now, black X's in the places where his wedding photos had been. He didn't like the bare spots in the wallpaper.

I didn't mind them. Sometimes I poked them with a pin, outlining

perforations in each pattern. My first mother left right after I was born. She disappeared without warning, and the day after she left, the good part of the story, my dad discovered a new star. After my second mother walked out, my dad's team spotted an elusive comet.

"Did you find anything last night?" I asked my dad.

"Why would we?

"I don't know," I said. "I just thought you might."

Volcano gods needed sacrifices, Mr. Loury had said. I thought about Pele and her boys. I wondered if other volcanoes wanted other kinds of sacrifices. I wondered if observatories did.

I didn't know how telescopes worked. I didn't know what made up the center of the earth. I had muddled thoughts of lava. How would I know what the sky was made of, or that there was not another sky just beneath the surface of the ground? I thought it might be possible.

I knew that Palomar sometimes got angry. The shutters got stuck closed and the telescope couldn't see out. There'd been days of malfunction that week, things jammed in the works, and my dad had complained to my third mother about it. A grant had been lost because of observatory failure, and there were salary questions. They needed to find something new, something that would attract media. I'd heard a daylight argument.

"Did the roof open last night?" I asked my dad.

"Yep," he said, and went back to the X on the wall, going over it with his ballpoint. I thought about the picture that had been there until the day before, my third mother laughing, with her mouth full of cake. I wanted the photo back. I wanted her back. I wanted them all back.

I arranged the sticks on the counter into a triangle, the shortest one at the bottom, until my dad noticed what I was doing and took them away, breaking them on the way into the trash.

"Why'd she go to Alaska?" I asked him. "She never said anything about Alaska."

He didn't answer for a moment.

"She likes the cold," he finally said, and looked at me, his eyes wide and bloodshot behind his glasses. "Leave it alone."

I walked away from my dad, and up the stairs. I cranked open my bedroom window and looked up at the dark of the mountain.

I'd seen a television program about the explosion of Krakatoa, and in it, there was a fact that haunted me. Rafts made of hardened lava had floated up onto the coast of Africa, even a year later, passengered by skeletons. But maybe those people had been sacrificed to the volcano, and their bones thrown up into the air by the explosion. Maybe Krakatoa had exploded because it didn't like what it was being

fed.

I wondered about my mothers. I wondered about Mr. Loury's wife. I wondered if there was a hole in the floor of the observatory, and if through it you might be able to see things beneath. I didn't want to wonder, but I wondered.

Later, I snuck out the window, and into the night. Did I even need to sneak? No one was in charge. No one saw me walking to Mr. Loury's house. I used my sneaker to open a hole in the top of Mr. Loury's volcano. After a minute, I used my hands. I was a Krakatoan. I stamped on Mr. Loury's volcano again, and then put my ear to the ground.

For a long time, I didn't hear anything.

But then, from far below me, I heard something stamping back, a pounding from the other side of the earth. Then a murmuring. I scratched harder with my hands, shoveling dirt away from the top of the volcano.

A light went on in Mr. Loury's kitchen, and his screen door opened.

"Hey!" he shouted, but I was gone, sprinting up Palomar, because whatever was in that volcano, I'd heard a sound, a ragged gasp of welcome as I moved the dirt away. And something else had happened too.

I had a piggy bank with thirteen dollars in it. I had three missing mothers. I dodged into the trees, and ran uphill, off the side of the road where he couldn't follow me. This was my territory. I knew how to run in the woods. He didn't even try, because he was a grown-up, and he had a car. I heard it start.

Trees leaning in, a no-stars, no-moon night and I thought maybe the sky had been swallowed by the observatory draining the stars into its mouth, sucking the darkness dry. There it was, in front of me, its glowing white snowcone looming against the horizon.

I scraped my hands on my jeans, once, twice, three times, until my palms stung, because from inside Mr. Loury's volcano, someone's fingers had reached up and touched mine.

I wasn't sure about breathing. I could hardly see. One of my knees was skinned. Maybe I was crying. I wanted my dad and I didn't. I wanted my mothers, even the one I never knew.

There was a set of headlights speeding up the spiral road and the observatory was full of astronomers without wives. Funerals sometimes. Car-crashes and cancer. Other times the wives just went away and no one ever saw them again. This was the way the world worked, I'd imagined, but now I wondered if it really was.

My third mother, I thought and my brain got stuck on it. Katharine, called Kit, who sometimes called me Kit too, and

sometimes called me Tool, for toolkit, as in a smaller, more equipped version of herself. But my real name was something else entirely. My dad called me Aulax, after a star. “The Furrow,” that star name meant, and he’d stuck a Mary in as my middle name to make me more human.

The door was unlocked. I skidded in on my heels, and felt along the edge of the room. I knew my way around Palomar. The inside was like nothing, no sky on view, just the telescope stabbing through the sphere, but as I stood there, not hidden, uncertain, the shutters began to open to let the telescope look at the sky.

Mr. Loury’s story was horrible all over my brain. *Look down*, he said in my head, *look underground*, and as I thought it, I felt those cold fingers again, touching my own, gripping my own, and I heard a car stop outside.

No one was visible inside the observatory. I wanted to look toward the center of the Earth. I wanted to find my mothers. I didn’t want to think about Alaska. I didn’t want to think about Pele. I didn’t want to think about who was underneath that dirt in Mr. Loury’s backyard, nor about how far down the dirt went.

I ran to the telescope and slung myself up into its workings. The shutters were open and the sky was there, black. I held my breath and climbed.

Mr. Loury was in the building. I could feel him, making his way around the edge of the circle. The telescope was moving, and I was slipping.

“Kid,” he called. “Hey, buddy. Where’re you at?”

I twisted my knees over the beam at the base of the telescope. I’d always wanted to climb the Hale. It was the biggest telescope in the world. Not in the dark.

“This isn’t a place for little girls,” he said, and his voice was closer than I’d thought he was. “They’re going to look at the roots of the world tonight.”

Where were the rest of the astronomers? Where was my dad, for that matter? He was supposed to be here. Nobody was in charge, I reminded myself.

I tied my shirtsleeves to the beam, because I felt the telescope moving. There was a sound, a squealing shudder, which I took for the roof shutters opening further, but when I arched my neck to try to look around the side of the telescope, I couldn’t see anything.

I looked down. There was light below me, and the telescope rotated toward it, my fingers slipping on the metal as we tilted backward. I was not inside the telescope, could not see whatever it was they were seeing there in the cage, but whatever they were looking at, whatever it was they were trying to see, it was in the

wrong direction.

"You aren't here," Mr. Loury said, from directly below me, and I could tell he was looking up at me, trying to reach me, but I couldn't do anything about it.

"I belong here. My dad works here, and you're trespassing. You got fired," I told him, clinging to the beam. I didn't care about quiet any more. I wanted someone to hear me, and yet, somehow, I didn't scream for help.

"I tried to tell you," Mr. Loury said. "The stars are gone and all of them are gone with them. They want boys, and that's all. She doesn't want me anymore."

The telescope completed its tilt, flipping me so that I faced down, and I saw what the open shutters looked into, what I was dangling over.

There was lava below us, a crater full of it, glowing orange and red, and in the lava there were women, stretching their fingers to touch the metal of the telescope, pressing their nails into it.

I saw the incandescent roots of the world, and the way the women were tangled in them, their mouths open, a deafening murmur like wind tearing trees. I saw Mr. Loury's wife, the Kodachrome version of her, her white skin and bright hair, her eyes big and black-rimmed with fake lashes. The sunglasses she always wore were missing. She was naked, her long arms savaged and blistered, her ribs skinny and her hipbones sticking out. Come here, she mouthed, and her lipstick was perfect. Other mothers were there too, and I knew them.

I'd been to their funerals and gone to school with their abandoned children. I'd seen the X's where they weren't. I saw all the dead women in the center of the earth, and then I saw them reach up toward where I dangled.

I saw my third mother, and she saw me.

Somewhere I heard a door slam, a shout, and Mr. Loury, just for an instant, was silhouetted against all that light and fire.

Then, like the Krakatoans, the astronomer's wives were gone, and my mother was gone, and all that was left were black skeletons, ashes floating on rafts of darkness, lists of dead stars. I heard myself screaming.

The asbestos-tiled floor of the observatory appeared beneath my cheek, and my head appeared on top of my body, sharp pain and dull ache at once, and there was my dad, kneeling beside me, his eyes still bloodshot.

"Can you move?" he asked me. "Is anything broken?"

I could move. Nothing was broken. The roof rotated and where the sky had been dark, it was now all stars and Milky Way. I stood up,

bruised, and tried to figure out where my feet were. My dad had me by the arm, and he was moving me out of there, faster than I wanted to move. I looked back at the telescope, and I could feel everything getting taken away from me, forever, and all at once.

My dad carried me to the car, fastened my seatbelt, and drove me down the spiral road, and to the hospital. He told the nurses I'd fallen from something high, and they looked into my eyes and agreed that I was looking out at the world through a concussion. They showed me my pupils in a handmirror, one big, one tiny, Martian moons in an eclipse, or the sun trying to shine through a sky full of ash.

I put my face into a crisp white shoulder and cried there, but when I lifted my head, I was done, and no one asked.

Mr. Loury's abandoned house and its volcano got paved over when they redid the spiral road in the late 70's.

My dad drowned in 1984, on a trip to the South Pacific, diving into an underwater cave and failing to equalize his pressure, but he was an old man by then and hadn't been in touch with me in a long time. There were no more mothers.

The astronomers at Palomar kept finding supernovae and charting galaxies, but the largest telescope in the world was surpassed in size in the early 90's. The last time I drove there, up the spiral road and to the tourist center, it was daylight, and the only person I saw was not an astronomer, but a painter pulleying himself around the walls, rolling white paint slowly over the dome.

When I tried to ask him a question, he shrugged and turned back to his job, pulling himself along the dome, hand over hand.

I stood there a while, watching him spackling the fine cracks all over the surface, the ones that stretched up from the gravel and all the way to the top of the dome itself. The observatory was getting old. I bent down, and put my ear to the ground, but there was nothing to hear. When I stood up, the painter was looking at me.

He reached into the pocket of his overalls, and tossed me a small white rock. Later that night, in my hotel room, I soaked it in alcohol. Underneath the paint, the rock was black and porous, but that was all.

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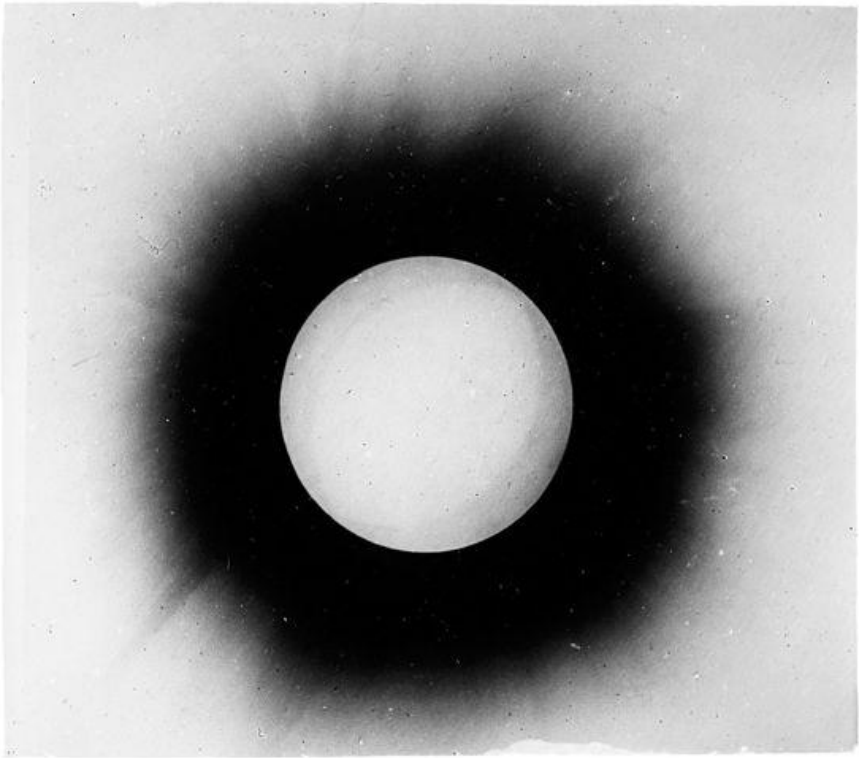


*We regret the loss of you, for although we know how to subsist without you, yet we do not know why.*

———

*Slide, formerly from the collection of the British Astronomical Association, showing a total solar eclipse◦– when the disk of the Sun is fully obscured by the Moon. (c1900)*

# AN ACCOUNT OF A VOYAGE FROM WORLD TO WORLD AGAIN, BY WAY OF THE MOON, 1726, IN THE COMMISSION OF GEORGIUS REX PRIMUS, MONARCH OF NORTHERN EUROPE AND LORD OF SELENIC TERRITORIES, DEFENDER OF THE FAITH. UNDERTAKEN BY CAPTAIN WM CHETWIN ABOARD THE COMETES GEORGIUS.

**ADAM ROBERT**

*My Commission*

In all respects aiming at brevity, I here set down the account of the cruize I undertook to the Moon, afterwards returning again to this, our world, in the years of our Lord, 1726 & 27. There is (as is well known) littel enough in the Moon to justify the expence of crewing and leasing a vessel; save only that it is upon the Moon that the Patiens make their habitation, and as such some do go in hopes of obtaining or otherwise laying hands upon any and all devices or vessels of their design. Howsoever rarely this is achiev'd, and with what poor returns upon the market here is well known, for perhaps one in every four items brought back to our world is of any use to us at all, and the main amount of such chattel merely reproduces what is already in the possession of mankind, where such novelties most often prove impossible for the wits of men to decipher.

So was I sworn by the First Lord Commissioner, the Earl of *Berkeley* Viscount *Dursley*, during the early days of the late war between Spain and Peru; for at time of war was the urge to uncover such Arms as may be secreted amongst the machinery of the Patiens, tho' never yet accomplished. It is known now (forall that I was bound with oaths of secrecy at that time) that His Majesty's Own Ambassadors were treating with Brasilia and Peru, and that the Americas were eager to have a European allie in their struggle against the Spaniards. To that end, and to ease such discussion with proof of

our intent in stopping Spain from locating any *Weapons* such as may or may not have been available in the Sky-lands. I was Commission'd to make my way thither, and funds were furnished upon the Stock of *Sir George Oxenden,* Bart, and *Sir John Jennings,* who became Certificated Gentleman with shares of 20/100 apiece in any prize we might win. But this manner of voyage is so different to admiralty work, and plunder so rare to come by, that their shares were in turn underwritten by His Majesty's Office of Swedish Finance.

My Lords approach'd me, I do not doubt, on account of my experience going thither into the tallest hights, and having previously publish'd *Round the World by Way of the Attenuat'd Hights*, published at Mr. *Crowther's*, 1717, I do commend this account to my present readers. As to the obtaining of the vessel, I shall here say littel; for it is well known that most of the Patien devices with useful function reside in private hands, for all that the Crown urges its Subjects to sell them to the State. There being in divers hands four devices for Communication over Vast distance, none of which I have ever seen; and upwards of two dozen devices for elevating vessels to the greatest hight; yet these latter have yet to be prov'd, for only when the Vessel so uplifted has left the thickness of Earthly ayr below it may it be in any fashion steer'd, such that the creation of craft that may Fly about the Skies of this world has not been accomplish'd. Yet the Chinese claim they have modify'd such a Vessel, as we may very well expect it shoud be possible to do; or else (as in the present wars) *Craft* must fly up to the Attenuat'd Hights in order to come back down again in another place. There was but one device found useful for applying *Heat* via a wand of some metallick quality, and it the only Patiens-ware ever seiz'd by the Crown, upon the Royal Warrant, and taken to the Royal Armouries where its mysteries were not exhum'd and (as I heard) it was spoyl'd by those who examin'd it and now rests mere junk.

At any rate, the Guild that attends to building and caulking the Vessels, and the Guild that has possession of the Propulse, and the Guild that attends to Ayr, and the Guild that possesses the Royal Patent for provisioning such cruizes, all stand off from all, such that bringing together a crew is a tiresome business. It might benefit the Commonwealth of all Northward European peoples, under His Gracious Majesty's rule, were they but encouraged to allign their commerce. On this occasion it requir'd a threeweek's tedious use of my time to provision and construct the Vessel, which I named the *Cometes Georgius;* most of which labour was in having my men running from office to office along the *Dover* roads. At fine, the Vessel was readied: it being if pyramidic shape the better to cleave through the ayr close to our world; builded of alternate layers of wood, well

caulked with plastick'd tarr, and sheets of the new India-rubber, to preserve the atmosphear within. A number of balons of ayr must be carried thither, each twice the size of the Vessel itself; and I know that the Americans, when they ascend, begin the cruize by heating the ayr within and so are lifted on the first stage, although the Propulse-device of the Patiens must soon be engag'd. We had no such unnecessary complexness about our Voyaging, and the balon lay alongside us, ty'd with cord to the base and link'd via a spiggot-tube. The ayr being so precious a commodity limits the size of the crew; one man per Guild and myself being four in all; or else the number of balons tow'd behind must needs become troublesome. Dobrée took twenty with him on his supraplanetary, hoping to replenish them at journey's end, but was compell'd to return on the same supply and thereby perished the majority of his crew. It has been found, since then, that the seeding the interior with green vegetation goes some way toward avoiding the parching of the lungs, tho' Dobrée knew nothing of that. My crew was roster'd as follows:

Captain, my self
Gabriel Cano, Ayr
Eberhard Christian Kindermann, Pilot
James Moulville, Purser

As for the Propulse itself, it is a manner of seven-tine starr'd structure, of weight equivalent to a small cannon but spread thin, and constructed not of metal, altho' it is of a substance akin to metal. As to the operation of this device, it is easy enough to deduce it, for all that the Guild pretends it is of passing secrecy and difficulty; for each of the tines may be operated independent, or in any combination, by the scraping of a blade or rod along the groove in each, as I have often observ'd the *Pilota* doing; and in truth it was only my respect for the terms of the Royal Guild Charter, and my own Commission, and not any insufficiency in my own skill, that prevented me kicking the Pilot (a fellow given to insolence of address when speaking to me, by name *Kindermann*, out of Prussia) off the Vessel. When in the lower ayr, all seven tines are needful at their greatest power, in order to keep the Vessel steady; and attempts to steer the course in amongst the turbulence below the clouds will like as not cause it to o'ertopple and crash. But above the lower ayr the matter of the atmosphear becoming so difuse, the tines may be individually activated to propell the vessel this way or that.

We set off first from *Kent* on a clear day, 12th June, 1726; and were delay'd at once, for the of our three balons one was indifferently ty'd to the *Cometes*, such that the cord broke and the balon fell away. This involv'd us in delay and expense, for, 1, the balon went into the

English Canal and bobb'd, for all that I know, to *France;* and, 2, tho' I instruct'd the pilot to descend immediately, yet he contin'd the ascent until he was perswaded cross-winds had become negligible, and only thence reverse the direction of travel; such that we set down again some thirty leagues away from our departing point. The *Cometes* having to be carried across the country, and a new balon obtained and fill'd and other sundry annoyances requir'd a further three days and near-enough £80 of extraneous expence. But we set off again, the 15th June, and had no further difficulty in quitting the Earth's thicker ayr altogether. The experience of this flight is not unpleasing, for the motion in the lower ayr being slow'd by the need to drag our balons behind us, is neither precipitous nor startling; yet in the upper ayr the lack of obstruction to our passage means that we shoot faster and faster, as a Cannon-bullet. It is a three-night journey to reach the Moon, and the days in that place are night in all respects. Some take candles with them, but I prefer to preserve our supply of breathable and subsist on such sunlight as the portholes inmit. The road is clear; for altho' others have affirmed the existence of rubble and other obstacles in the way, causing annoyance and worse to the fabrick of any vessel, I have not found it so. The most remarkable thing at first is that the people swim and and turn like fish in a tank, by whatsoever strange Magnetick or Nimphidic power of the high sky. Yet *Custom* works so strongly upon us that tho' we find ourselves amaz'd at the first, yet soon we become us'd and even bored with the facility.

The higher sky is so capacious, and the passage rapid, it is near impossible to observe whate'er other Vessels are traversing the distance between Earth and the Moon; although I am perswaded that the Chinese and the Peruvians both make more frequent cruizes thither and back than is generally suppos'd. For the Peruvian Cristal House must be supply'd with ayr, that cannot be found except upon the Earth. And whilst the means by which the Patiens's devices are fuell'd or power'd or do otherwise draw their means of subsistence is entirely unknown, we are in no ways restrict'd by the need to supply such fuel, or to any degree incommoded from making as many voyages as we chuse; and it is only the necessity of bringing along ayr, water and victuals for the crew that acts as any restriction upon travelling as far and often as we might wish. I do believe the Americans ply the distance on a continual round, such that their Cristal House lose nothing in the cleanness of its atmosphear, and afterwards had occasion to confirm.

The *Moon* appears at first in the porthole no larger than it does from the ground upon our own *Mundus*; and a full day may pass before any increase in dimension be observ'd; but by the third day it is large enough to make out the structures upon it, and by the fifth it

fills the view. Here the Pilot reverses the action of the Propulse, which caus'd the fabrick of the *Cometes* to tremble and groan like to fly apart, and occasion'd us all grave anxiety; and also our balons, from being dragged behind, did swallow around us, and obstruct'd our vision from portholes, which was by no means conducive to good navigation. But the celerity of passage must be quench'd; and after a ten-minute of complaining it settled again. By wagging the Vessel from side to side, Kindermann clear'd one porthole, and from this was looked out upon the Selenic landscape.

There being no ayr in that place, nothing prevents a craft with access to a Patiens' device from moving about the sky at leisure, and we made a road for ourselves according to my instructions, passing over a number of large Crateric and Ridged features. The face of the Moon being familiar to all, and the location of all structures well-mapp'd, there was no difficulty in navigating over the surface of it. Shortly thereafter we pass'd over one of the habitations of the Patiens, not far from the Crater nam'd *Blenheim* by us, but *Sancta Maria* by other nations. We could see the spread of structures, radiating out from a hub, and lit at all points by those same ever-burning lanterns two samples of which have fall'n into the hands of the Turques, as I hear it. We all clustered about the porthole and looked down to see the Patiens themselves; from the prospect of altitude reduc'd even more to insectile seeming, hurrying in and out of their houses on their incomprehensible tasks. They paid us no heed, save only one of their aerial machines, or as some assert their birds (though it looks unlike any bird) that flew up and about us and then flew away.

Soon we approach'd the Cristal House of the Peruvians; for it is but a roof'd-over Crater three leagues S.S.W of the Great Copernick Crater that is familiar to any who have cast their eye upon the Moon. My thought was: should the Spaniards ever obtain a Propulse and build a Vessel, it would present them no challenge at all to find the House and break its roof, whereby all its ayr would be lost and the crops within kill'd. We made a pass low over the structure, and admir'd its shine in the unhaz'd sunlight very much; and once passed we saw men at work on the other side of the glass tending their vegetation; and we saw also the pier, or pavement, construct'd alongside for the reception of their own ships. Shadows upon the Moon are drawn tight as draughtsman's lines, and very stark and clear; and the light is such as not like to be forgotten. And here I instructed the pilot to set the *Cometes* down. It landed with some commotion, for we missed the pavement, and landed on the desart soil nearby; and moreover the landing near tipped us aside, at the which I was wrathful with Kindermann. Shortly thereafter we pass'd over one of the habitations of the Patiens Kindermann the while spoke to me

very insolent, and assur'd me he had power to blacklist me from further trade with his Guild, if I thought to treat him as a slave or remitted the slightest courteous usage. I reminded him of the great sums I had defray'd, and bade him only do his job. At this Cano and Mulville took the Pilot's side, and we endur'd an ill mood in that craft whilst awaiting the Pervuians.

They came at last, after the dust had settled; and in truth it sifted but slowly to the ground; for weight on the Moon is less than on our world. For it is the efficacy of the various worlds to cast their charm upon men in divers ways; such that to stand upon 1 planet is to be made from stone, and upon another into cork. It is accordingly a different matter entire to stand upon the Moon as it is upon the Earth; in the former place the substance of that world causeth the body to become buoyant almost to the current of floating into the ayr; yet to return again to the Earth is to become heavy again, with a sense of sinkage of body and spirit both. As to how this effect is form'd, opinion is divided, some adhering to the French school of *Des Cart,* some to the English of Viscount *Coldstream* and some the German of *Neuton*. Some affirm (and I do myself believe) that the Earth, as the site of the sin of Adam, was endued with weightiness as a portion of its especial curse; and that other planets surrounding the sun being free of such taint are all lighter worlds; as we can see of Jupitter, the most large; for that none have yet voyaged thither, yet it is plain that to look through a Prospective glass is to see a world, as the poet says,

> ……..curious we behold thy many *Belts*
> That gird thy Spacious Body round and large,
> Formed from thick Vapours, Stormfronts dire

From which we may deduce that Jupitter is a vaprous world, such as could not be if its weight were consummate with its great size (as Neuton affirms), or those vapours would be drawn out of the sky to fall as rain and the obscurant clouds would clear away, as may be observ'd in the case the *Earth*.

*Concerning the Patien race*

As to whether the Patien specie have the knowledge to explain this anomalous circumstance I do not know, and some affirm they lack all knowledge themselves, and are mere clowns, or puppets, of some greater power. For (it is said by some) it may be that the Patien are not the inventors of the devices and vessels we call theirs, but only receiv'd them as gifts from a Higher race—or pilfer'd them from thence—much as we have come by such devices as are ours. Certain

the Patien have not that force about their *affaires* such as we might think fitting for great inventors, and on the contrary seem distrait and eccentric; for all remarck how great a chance they daily miss to subdue the whole world with their advantages over us.

But I disbelieve this story myself, for if the Patien are not the progenitors of their machines, but took them from another race, then where is this race? Why have they permitted their advances to be stol'n? Why come they not hither to retrieve it? And as to the Patien claim, that they have come hither from the Pole star, which is *Polaris;* I believe this may be after the manner of some jest or riddle of their own; for it has been assiduously ascertained by the Chevalier de Mouhy and others that the fix'd stars are too distant for such voyaging. A Cannon-Bullet shot from the *Earth* must require 26 years in passing from hence to the *Sun,* and with the same Velocity wherewith it was discharged, it would require, in order to arrive at the fix'd Stars almost Seven hundred thousand Years: and a Ship that can sail 50 miles in a Day and a Night, will require 30,430,400 Years. As to the suppos'd Immortality of the Patien, I do not believe; for I have seen old ones as well as young, and seen that when cut they bleed, tho' it is a curious form of blood, coloured like as milk or buttermilk; and besides, to advert Immortality to any *Being* not explicitly *Divine* is a blasphemous derogation of God's Will in this *Univers*. It does less violence to credulity to believe the Patien come from some other world in orbit of the Sun, Mars as some say; which if Dobrée is to be believ'd (and there is much that is hard to credit in his *Voyage á le Monde Martien*) is near as desart and ayrless as the Moon herself. Some will say that Dobrée reported seeing none of the Patien race upon Mars in his time there; to which I reply, 1, that it being a world entire, it ought not offend our reason to believe that some parts are more inhabited than others, for if a visitor came to *our* world he might as well stop in the Afric desart and declare the whole globe void of population, as make any such categorical statement regarding Mars; and, 2, that Dobrée so poorly provision'd for his voyage, especially in consideration of ayr, but water also, that his crew, all but one, perish'd on the return, and both he and Valtat were driven from their wits with the suffering of it, such that I doubt a court of law in London would accept his testimony as gospel in any tryal or deposition. But this and other pedantic questioning may best be left for future expeditions to that Scarlet world to determine.

What else can be said of the Patiens is that cold incommodes them not at all, nor heat, nor thinness of ayr; but as to how their boddies are constituted, with what Juices their Veins are supply'd, and what Sense they are capable of, we can but say that their Life is other than Ours. They exist according to an other logick of life, and

distribute their Governance according to a different oeconomy entire, which I am perswaded after all my dealings with them.

*The Cristal House*

I shall give a brief account of the Cristal House maintained upon the moon at the pleasure of His Catholick Majesty. It is a very spacious demense, and easy to traverse, for the lightness of the boddy under Lunar influence permits great leaps and gallops. The smell of the dust, there, is offensive, and reeks like gunpowder; although I was assur'd by those dwelling there it is not combustible. This, where the Peruvians have widely water'd the lunar soil, first covering this with such roofage as expand about a quantity of 2 or 3 acre, making a soft black ouze they claim very quick in the cultivation of yams and fruit; and certain the vegetables grow to prodigious sizes, much priz'd for this on the home market. But the expence of maintaining such an establishment is hardly to be defray'd by such market-gardening. I spoke to one who said that, the vegetation breath'd such virtue into the ayr that it would render needless the importation of breathable vapour from the Earth, were it not that the lunar nights grow so cold, and last fully a fortnight long, that the inhabitants of that house are oblig'd to light fires all about to prevent the crops parching with the freeze, and these flames do devour the air that would otherwise be available for the breathing of the inhabitants. But the prestige of maintaining their establishment is great, and the hope, although it is but rarely fulfill'd, of chancing upon discarded ordnance of the Patiens race, comprize sufficient reason for the difficulty of the undertaking.

We were receiv'd cordially by the Peruvians, who came up to the very double door of the *Cometes* in one of their contrivances for moving about the Selenic surface; which is a great globe seal'd rubber and leather, fill'd with ayr, such that one man or several may roll it over the ground by running at the curv'd wall. A sac can be inflated and section'd away, through which egress and exit is possible; and Kindermann, Moulville and I wriggl'd with some loss of dignity into this device, leaving only Cano behind to attend to the *Cometes*. Inside the ball all must shift, and none may be a passenger, or they would be rollt about with the motion of the sphear, so I ran like a rat in a wheel with the others, and so we made it into the Cristal *House*.

Here we were handsomely received by the Lord of the farm, Don Frederico de Vouert, and we toasted the health of our respective kings, His Boreal Majesty and His Catholick Majesty, and ate steaks cuts from the yams grown therein which were very tasty, and ate jerked beef also. My Spanish and Portugueze being equally indifferent, and Don Frederico not speaking French (tho' I expected it of him) we

convers'd tolerably well in *Lattin*, and so grew cordial gabbling together like novitiate priests. I presented my Commission to Don Frederico, and render'd it into terms he might understand, and we discuss'd the treaty of amity between our two great empires, which news was a great surpize and joy to him; for the only commerce he has with the Earth comes with the cargoes of ayr and victuals, which being merchanters are not trusted to carry epistles containing matters of State. We talk'd for a time concerning the Patiens, but tho' he lived a matter of leagues from one of their settlements, yet he had nothing to report on them that I had not heard before. For the truth is, these creatures remain as much a mystery to us as they did when first they appear'd amongst us, forty years since.

I was honour'd with a tour of the whole House, and admir'd especially the grid of crysytal panes and wrought-iron support that made up the structure. Don Frederico show'd me two suits, moulded and fashion'd most cunningly of indiarubber, with a helmet of iron and a visor of glass, for a man to wear if he ventur'd out upon the Moonic surface. He had worn one himself on divers occasions, he reported; as had his men. *But,* he said, *it was but a poor shift;* for on stepping outside the ayr inside the suit puffed and hardened, such that it became near impossible to move the limbs, and perambulation became a matter of great arduosity. We retir'd to the Don's private quarters, and continu'd diplomatick exchange over glasses of Selenic brandie, most agreeably flavoursome.

Said he: *the union of our two empires will put an short end to the ambitions of Spain, whose history in the Americas had poysoned the people against them even before the arrival of the Patiens.*

To which I replied that, his Boreal Majesty King George wish'd for nothing more heartily than mondial peace, and prosperity for us all. But was he sure, as common report claim'd, that the Spaniards had lost all the Propulse devices they had ever had?

To which he replied that he believ'd so; that they only had ever had two, and that one had been taken from them by the Brasilian navy, and they themselves have destroy'd the other in the furnace for fear it would fall into the hands of the Turques. And that he, for one, was glad of it; for he was in continual anxiety as to the fragility of his roof, and the ease with which a determin'd enemy could lay waste to the whole *Casa Crystall*. In the light of what transpir'd, his words were prophetic as *Jeremiah*.

*Are you much bother'd with the Patien, in this place?* I enquir'd of him. To which he made answer, not much; that they kept themselves to themselves, tho' they watch'd their goings & comings not without anxiety, *for* (he said) *they are capricious, and swarm from task to task, and follow not great plan, It is my belief we have acquir'd their devices*

*only thro' their carelessness, and should they become aware of us it would be of a sudden, and then they would swarm upon us and devour us verily as locusts do.*

*But we are better able to defend ourselves,* I observ'd, *because we have acquir'd their devices.* And with this he was in agreement.

He then teaz'd me, the brandie working visibly in his manner, that *tho' King George permitt'd the world to believe he had but four Propulse devices, yet the rumours were he had six.*

I of course refus'd to discuss such Statecraft, tho' in joviall manner enough; and we parted on good terms. But one of the Cristal House's men, leading me below to quarters, ask'd whether we thought it politick to employ a Bavarian in our crew. I inform'd him that Pilot Kindermann was from Northern Prussia, and serv'd in the Baltic navy a time; but this Peruvian (whose name, he said, was Hermann) assur'd me he that he not only spoke tolerable *German*, but knew a Bavarian accent from a Prussian. I, being somewhat incommoded with liquor, decided to leave any further inquiry to the morn. This, I now regret.

I was oblig'd to sleep in a chamber cut from cold Selenic rock, below the floor of the crater, with my two crewmen; such spaces being but hard-worked and the rock all granite, so they had as yet fashioned but a few. Nor did I enjoy a long sleep, for some hours I was awoken by the sound of some thunder and catarwawling from above. And by the time I had rows'd myself fully, and dressed, and hurry'd above, we found a scene of commotion.

One of the panes of cristal having broke, or been shatter'd, a quantity of ayr had fled into the Selenic sky; and tho' the pane had been soon restor'd—for the Pervuians are practised at repair, as well they might be given that their very life depends upon it, yet Don Frederico was gravely concern'd at his supply of breathable. *How could it come that your cristal is broke?* I asked of him. To which he replied *that meteors sometimes fell from the heavens, but that he did not put aside the possibility of treachery from within, since the fragments of cristal would on either occasion be thrown outside by the uncompressing wind of ayr leaving the House.* I ask'd after the resupply of his ayr, and he put upon himself a sober face and said that there was a week more before any new balons might be expected; and that the Selenic night began in three days. *You can hardly credit, Señor Ingles, how quick,* he said, *the cold comes, and how unsupportable it be without a fire be lit.* Yet fire would consume his breathable, and so he declar'd they must ready for the cold. According to his own report the ayr itself turns icy, and can only be made vapour by being heated in a great copper cauldron they keep for that purpose.

I of course took my leave of them; for tho' he pressed his continued hospitality upon us, yet he had no need of three subjects of

King George breathing up his ayr. Yet before we could pass out there was more anxiety, for one of Don Frederico's men was found smitted and prone, by the exit. Salts and liquor reviv'd him, yet how he came to have been laid out he could not say; only that he had heard something amongst the foliage of the plantation, and had receiv'd a pate-blow when he look'd into it, from whom he knew not. It seem'd to me (yet am I no *surgeon*) that he had been struck across the forehead by a sabre, for the red groove ran from eye to hairline.

I felt some anxiety on account of our departure seeming suspicious, giv'n this wicked development; yet the preciousness of ayr was a consideration not to be gainsaid, and the fellow look'd fair to recover, and after many assurances of our amity and concern we three clamber'd ungainly into the sphear, with one of Don Frederico's men. For after delivering us to the *Cometes Georgius,* there must be one fellow yet remaining to roll the sphear back to the Cristal House.

*What transpir'd with Kindermann*

Don Frederico bade us farewell, and made us the gift of one of his indiarubber suits; although disavow'd his own generosity, and claiming it worse than *useless*, yet was I glad to have it. We rolled the sphear with ease along the paved road, and with difficulty among the dusty portion of our way. But at last we return'd to the *Cometes Georgius,* and though I hurry'd Moulville and Kindermann before me, yet did Kindermann loiter back; and so contriv'd it that he was the last, save only Don Frederico's man, to leave the sphear. Then, turning before the seal was broke, he withdrew from his shirt a pistol, and began gabbling something in Spanish. I order'd him to put up his Arms, but he shriek'd, and discharg'd the *gunn;* and I am very sorry to say that Don Frederico's man receiv'd a bullet in his ribs; for he fell back with terrible rapidity and his blood leapt so far and high to spatter the sides of sphear it look'd as tho' it had come to life and been gifted with powr's of flight.

Cano, the coward, hid his head under his arms; but Moulville wrangled with the Pilot, attempting to get his firearm from him, but there was a terrifick discharge, and smoak in gouts, and Moulville fell away holding his estomach. He was not kill'd, but in great pain, and I held him as well as I could, though his gore soak'd hot into my own shirt and trowsers. Kindermann was in a state of the greatest agitation at these two sanguine offences, and whoop'd like a cockerel, brandishing his gun and jabbering in incomprehensible fashion. I, the while, berated him with great vehemence, that he was a traitor to His Majesty and the basest of villains. But, he told me, amongst a deal of matter I could not follow very clearly, that George was no Majesty of

his, that he was a subject of His Catholick Majesty Charles of Spain. And, as it later transpir'd, Don Frederico's other man had been right; for he was no Prussian, but a born and rais'd Bavariaman, who has secretly and long espous'd the Cisalpine Kingdom, who have thrown their lot, howsoever foolishly, with the Mediterranean Alliance, all of whom recognize none but the Spain king as their Lord.

He turn'd his attention to sealing the door with the sphear, and now it was plain his intent was nothing less than stealing the *Cometes Georgius* and delivering it to his masters, with what consequence for the war who can say? But whilst occupied in this business he dar'd not set down his pistol, and in fact discharg'd it a third time. I do not believe he intended this latter shot, for he yell'd with surprise; but the bullet passed through the open door and pricked the fabrick of the sphear. Conditions *lunarian* are such that this pinhole ripped precipitously into a great gash; and my ears fill'd with roaring, like the surf of some vasty invisible sea, and all the matter inside the vessel flew about in a whirl. In the noyse the door was at last clos'd, tho' I cannot say whether Cano or Kindermann achiev'd it; and we were left panting.

Kindermann held his pistol upon us, and cough'd fit to burst his lung. But Cano was in too great a terror to affect anything, and Moulville was shifting colour in his face blue and darker. *Await the moment!* Kindermann cry'd, and instruct'd me to *peep through the hole.* My head being convenient beside a porthole I did as he said; but my back was also against the spigot below, which led to our own balon of ayr, and this I kept clos'd.

The sight thro' the porthole was one to hurt the heart. For it was now apparent that Kindermann has secret'd a fuz'd barrel or device about the Cristal House, and had lit the fuze as we went. I doubt not (tho' he did not confirm such from his own lips) that the man struck on the forehead was Kindermann's doing; and that he had been discover'd laying this trap and shot the fellow, the ball grazing his brow and *caroming* away to break a pane in the cristal roof. The fellow was lucky not to have his skull broke, and to have surviv'd the encounter; yet unlucky in what thereafter followed. For I saw the explosion burst the cristal roof; and throw a great mass of debris into the black Selenic sky. The force with which this detonation smote the House is not to be express'd, no more than the agility with which glitterish shards of shatter'd cristal flew in every direction; but the most puzzling part of all was the Perfect Silence in which it all occur'd.

I called Kindermann *Madman* and *Devil* and *Lunar-Fawkes* to his face, but he agitation was no lessen'd by the successful accomplishment of this wicked plot. 'We shall lay the blame for this at

the door of the Patiens,' he declar'd; and bestirr'd him to the Propulse. I doubted not that he would now pilot the *Cometes* to Spain, and indeed he betook us all into the lunaric sky with celerity. But rather than departing the Moon straight, instead we overflew the wrecked site of the Peruvian house. I saw the dead boddies of some, their names I know not and I know not whether Don Frederico was among them; but there they lay blackn'd and sprawled in the dust, their eyes black as coals. For the ayr at such a hight, as is well known, is so severe that only to step out of door is to cause the skin to bruise as if from a blow. I have spoke with men who have lost eyes and fingers to the tugg of the lunar ayr, which in fact is no ayr at all. Yet also there are men, with whom I have conversed, who swear that, as with the at the top of mountains, it is merely a matter of accustomizing the mouth to the rarity; and schoolemen say that this is the ayr the angels themselves do breathe. Certain, the Patien take no harm from it, and prefer it to the thicker medium, altho they are not incapacitated by the thickest ayr, as I have myself seen, much as pearl divers are at ease at differing depths of water. (And I have read in Nieuwentyt, and do concurr with him, that what we call Water and what we call Ayr are in truth but the same material according to differing degrees to tenuousness, which can plainly be seen in that ayr frequent distils into rain and seeks again to fall).

Kindermann divided his attentions between holding his pistol upon us, and steering the craft towards the Tranquil Sea; which destination he announced to all of us in that vessel. The landscape of the Moon below is grey to a degree hardly to be believ'd; where the sunlight is hard upon it a silver and in patches quicksilver hue may be seen; but elsewhere it is dreary leaden and poyson'd blue in colour. I order'd cowering Cano to fetch some water for Moulville, altho' I had littel hope for his survival; and when Cano had oblig'd me, trembling, he return'd to his corner.

*There is a Patien's camp at the Tranquil Sea,* I observ'd.

*There is,* he replied. *And thither we shall do to make what mischief we may, before returning to the Earth and the court of King Charles of Spain.* When I press'd him as to his reasons, he expatiated, growing increasing breathless as he went on. That *the Patiens were the enemy, common to all mankind; and that the war between King Charles and his enemies was a tragickal distraction;* that *mankind must unite against the common threat before it was too late.*

I rebuk'd him for his folly, hoping in truth only to hurry him along with speaking, for I could feel in the strictness of my own throat the shortest way the air was going, and I kept the spigot tight under my right hand, behind my small-back, and in no wise did circulate fresher air with that handle.

Said I, *if the Patien creatures had such nefarious intention, then why had they not acted sooner?*

Said Kindermann*, that we only suppos'd the Patien superior to us; and in fact their numbers being so small, and the main part of their devices and ordnance mere junk, as a hundred speculators have discover'd, their odds of overcoming so large and populous a world as* Earth *were long.* To this end, Kindermann insisted, they were fomenting war between the nations of the globe, and would wait until we had spent our force upon one another, and the seas of the world ran purple with our blood, before moving upon us and enslaving those who survived.

It seem'd to me that, as the Poet says, tho' this was folly, yet was some wisdom in it. For the Patien do act most peculiar, eccentric to common sense; and it is true both that we outnumber they, and that they are as sensible to hurt and corporeal death as we. But still I could not credit they would permit us to lay our hands upon their devices, without some attempt to restore them to themselves, if their intent were hostile.

*But why,* Kindermann press'd me, *have they come hither at all?*

*As to that,* I reply'd (though all the time judging my moment) *it was idle to speculate, since we lack'd all evidential circumstance. And whist the plan of amity amongst all nations was both noble and prudent, it would be more directly accomplish'd by Charles of Spain suing for peace than in struggling on with a battel beyond his powers to win.*

At this Kindermann began a pompous speech, and thereby elaborated a precarious stratagem; that we would steal ordnance from the Patien camp on the Tranquil Sea, and return heroes to Spain; that the blame for the destruction of the *Casa Cristala* would be thrown on the Patiens, and humanity unite in outrage against these alien creatures, aided by the fact that His Catholick Majesty would be newly arm'd with a Propulse (plus whatsoever else we obtain'd from our current raid). That a new alliance of all the world's people would unite to return to the Moon and vanquish the Patien. *They ly'd, he repeated, by way of refrain or slogan, when they claim'd to have come from the Star Sirius* (such a provenance being a patent impossibility); *what else have they ly'd about?*

I judged my moment to have come. Moulville, I am sorry to say, had stopp'd breathing some minutes previous; and as I hope to stand straight before CHRIST after my last day so I do swear I intended no disrespect to that brave fellow in how I used him. But needs must when the *Devil* drives us, as the proverb goes &c., and the fate of nations was weigh'd in the balance, against only my meager purposiveness. So I lifted him (easy to do, since the Selenic charm upon his corpus had rendered it littel more than a small *Child's* in weight) and toss'd him at Kindermann.

This naturally surpriz'd the Pilot, for he did not expect to have a human adult thrown as one might throw an apple at a beggar. The collision startl'd him from his position and press'd him against the wall, tho' he took no serious hurt. Luck did not wait upon me, however; for I hop'd to rush him and wrangle him down (for tho' he was younger and larger than I, yet the thinness of the ayr must incommode him) before he could discharge his pistol; but I found my limbs ineager and rebellious to my commands, and only with great weariness could I move across the floor towards him. I know not how to excuse my sluggishness in prosecuting my attack, save only that the thinness of ayr may have debilitated me more than I knew.

My heart lollop'd, if truth be told, when I saw Kindermann aym his pistol direct in at my face. A moment stood between me and death; but then the trigger tripp'd the hammer, and the weapon did not discharge. For fire, even when bundl'd so small as a *Spark,* needs ayr, and there was an insufficiency thereof in that place, then.

I am sorry to say my grappling with the Pilot was but a poor fistfight; and I panted and strain'd for ayr like any asthmatick. Kindermann threw me off, and I flew further than I thought to. But Cano recover'd his courage (and perhaps it was only that the pistol had affright'd him, and it being remov'd from consideration his courage return'd) and joy'nd the struggle. To make brief, tho' Kindermann clubb'd him with the buttress end of his gun, yet did Cano overwhelm him; and tho' the Pilot brought up a knife, with which he certainly intended to do great hurt to us both, in the struggle he sheath'd it again in his own side, and fell away yelping like a puppy. Alas that he fell near the Propulse, for in his grief and hurt, and the bitterness of defeat, the demon of Suicide seiz'd him and he grasp'd the device; and plung'd the *Cometes* straight at the ground. This happen'd so quick, indeed, that I could do naught to ameliorate our flight, and fell struck my head painfully against the wall, hard enough to loose a stream of blood. And almost at once, it seemed, we were dashed upon the Selenic ground.

Mere chance dictat'd the site of our collision, and it so happen'd that GOD threw a handful of dust under our tiller, or we would have been broke open and chok'd to death in moments. But though we surviv'd the first impact, yet the Vessel bounc'd and leapt back in the air, and came down again athwart a ridge-peak. The fabrick of the walls gave, at this blow, somewhat, and air hiss'd loudly. We tumbl'd down the far side, and roll'd the compleat circumference of the Vessel thrice, before we came to rest on the plain. But though this brought cessation to our fall, yet it damag'd the hull further, and the whole *Cometes* groan'd pitifully, and shook and jerk'd with the discharge of its air into the Lunar night like a live thing. I, by chance, had fall'n

near the spigot, and somehow gather'd myself to turn this enough to let the air flow; and in truth there was now such a breeze blowing, that the air was suck'd hard from the balon and blown out upon the Moon. But I breath'd easier, and brought Cano to the spigot also, for he was turning *blue.* So we refresh'd our lungs, and being daz'd with the blow to my head and somewhat shaken out of comfort by the crash, I did not for a time realize that the whole balon was deflating at a accelerated rate. Only when it ran dry—many days' supply of breathable, gone in a few minutes—did I realize our danger.

We had but one other full balon, and before I released the spigot on that I order'd Cano to assist me in making such repairs as we could to the breaches in our hull. This was no easy matter. Three or four we found soon, and they patch'd them as best we could; but the worst was the corner, which was stov'd in quite. Kindermann's body was here, and the draught of air had suck'd his body half outside, such that tho' we pull'd him back in (and we were gagging and coughing on the thinness of ayr) his face was white with frost, and strands of his beard broke away like icicles, and his eyes so blackened it look'd as though they were fill'd with black ink. So perish'd this traitor, tho' it was pitiful to see him in such a state for all that.

By stuffing his body back into the breach and cramming around it with what came to hand we in some measure seal'd our breach; and I was compell'd to open the second spigot or we would both have choak'd to death. But our situation, in honesty, was parlous; for we were marooned on the Moon; and it was hard to see how we should shift ourselves, or survive another twenty-four hours.

*Our attempt'd flight*

We arrang'd the interior of the *Cometes* into as good an Order as we could, and laid out Purser *Moulville* as best we could, with respect for his sacrifice and his bravery in life; and as Captain I said a prayer for his soul. To hold a hand near Kindermann's boddy was to feel a draught of air, which stood in proof of the insufficiency of the seal at that place where the fabrick of the Vessel was breach'd. This was my severest anxiety; for it would devour our ayr more quickly than we could afford; and swiftly I revolv'd the possibilities before us. In short, words cannot express the wretched condition we were in, or the surprize we were under of being so unfortunately wreck'd at a place more distant than the furthest *South Sea* island.

I discuss'd with Cano what options lay before us; they being, 1, that we attempt flight, and the Navigation by means of the Propulse, with the hope that the *Cometes* could be caulk'd or otherwise made tight sufficient to the journey (except that it was many days flight, and

that it was most uncertain whether moving the wreck might not reveal greater damage to the *Fabrick* of the whole); or, 2, one or other of us strike out wearing the indiarubber suit in the hope of finding succour; or, 3, we abided where we were in the hope of rescue. As for this latter, it was surely a forlorn hope that any so much as knew of our predicament, and we might wait until the breathable was used up and so drown in dead air. My thoughts inclin'd to the second option, but from whom might we expect help, in this distant place, the Cristal House being destroy'd? Naught but the Patiens themselves. At this juncture *Cano* very gravely made a proposal to me, that tho' he was a traitor, yet might *Kindermann* have had some merit in his suspicions of these beasts, and he declar'd himself disinclined to encounter them, calling them Very Devils and other such appellations. As for Kindermann, we both agreed, tho' his treachery was wicked, he had been sufficiently recompens'd for it with ignominious death.

The result was that we agreed to try the first; and spent a goodly time doing what we might by way of sealing the *Cometes* after such fashion as was available to us, prior to attempting flight. The lesser leaks I was assur'd we have solv'd, yet I was unsure how severe the main rupture might be. Yet there was no knowing but in trying, so I took charge of the Propulse itself, and touched its grooves to the best of my abilities.

We launched upward in lively manner, but at once it became clear that the *Cometes* could not support itself with integrity; and though we lurch'd high yet the Vessel made a great rattling and trembling; and as I attempt'd to swerve, as birds do in flight, to position myself in the direction of Home, when with a mighty conniption shake the breach opened wider and the boddy of Kindermann flew from its place and was sucked hard away, to fall a Luciferian trajectory towards the black sands below. But this was disaster; and occasion'd a great typhoon in the cabbin, and all in a flutter with all objects within; and several other breaches open'd again. I reached the spigot to stop all our ayr evanishing away, but this only caus'd us to choak and gasp; and I knew death was close upon us. I attempted to bring the *Cometes* gently to the ground again, but my hand was heavy and I landed with a mighty crack against (as I later knew) a Crater ridge. Providence caus'd a spur of rock to thrust up through the breach, and a great swarm of dust flew about, clogging throat and eyes. Cano and I clustered around the spigot, and I parcell'd out littel gouts of ayr that we breath'd in greedily enough. The dust was settled by being drawn out through the cracks our hull. But, stirring ourselves, we block'd these as well as we could, and cramm'd much cargo around the rock. So it was we found ourselves in a worse situation than before.

*What transpir'd with Cano*

Cano, I am sorry to say, wept a great deal, and it was at this point I understood he had carried about his person a bronze bottle of gin, from which he had too often refresh'd himself. I am almost ashamed to relate this man's behaviour in this skirmish; but as I think he deserves to be exposed, I shall divulge it in the manner I observ'd it. He, deciding that he would not die in that place, smote me cruelly about the head with a spanner, and as I was daz'd, neither relinquishing my senses wholly nor yet alert enough to counter his intent, I saw him put himself into the indiarubber suit. For we both knew that the suit was nothing without ayr, and the only supply of this latter was the one balon that remain'd to us. By the time he had fitted himself into the suit I was rouz'd somewhat from my half-stupor, but not in time to stop him stepping out through the door. And then I could do no other than watch from the porthole-window as Cano made his way about. He went to the exterior of the spigot, where the pipe fed ayr thro', and his intent was not less than to disattach it to supply his own suit, thereby extinguishing my life. But, in brief, he achiev'd not this bad plan, and tho' he expir'd on the black and purple sands, there. For as Don Frederico had said, the suit puff'd up like a pig's bladder until it was so rigid with cold that he could move not arms nor legs. He danc'd and leapt like a water-boatman, his limbs straight out, but then he tripped over a broad, black rock, shap'd like an umbrella buried in the sand, and fell. The ayr inside his suit was soon breath'd up, and tho' he twitched and struggl'd, yet could he not regain his footing. Shortly he mov'd no more, and so he pass'd from our mortall realm. I said a prayer for his Spirit, and reflect'd on how he might have acquitted himself had not drink possess'd his soul. Then I pray'd some more, for guidance, in that desolate place.

There was nothing but a choaking death to be expected of staying in that location, but I could see littel hope of egress. And though the indiarubber-suit had serv'd Cano but ill, yet I considerd how it might be possible to move, in howsoever waddling a fashion. But the suit was outside, and there was but one.

For two days (or so far as I could calculate the time, in that place, where the sun shrank only very slowly to the horizon) I made no attempt to remove myself; for I reason'd (howsoever ill my reason seems in hindsight) that it could be the Cristal House was not altogether destroy'd, and that they might come about the sky in their own vessel to search for me. But it was delusive. And then I saw that the sun, if slow, was setting, and soon the night would come when my

ayr would freeze and I finally die. Thinking of my Commission, and my duty, I could not think to leave the Propulse there; but though I made laborious way towards unfixing it, it was too heavy and well-set for one man to move. And at last I resolv'd: to die in the attempt at escape rather than die a passive death inside the *Cometes.*

The cold was growing apace; but the difficulties served to fix them more firmly in my resolution. In short, I swaddl'd myself about with such woollens and cloaths as we were supply'd with: leather gloves with woollen ones above (the which I may thank for the fact that I did not altogether lose my fingers), and silk handshoes for the feet; and for my head, about which I was in truth most concern'd, I fashion'd a sack of leather, and ty'd it about with a cord. The greatest inconvenience of this was that I could not see; but I spent long enough committing the scene without to my memory. Finally there was nothing but a short prayer and my hard-bearting heart, and I stepped from the ruin'd vessel.

The 1st thing that occur'd, which both surpriz'd and alarm'd me, was that the ayr inside my hood all fled away, and the fabric of the leather cleav'd close about my face. I had taken a dozen great breaths before my exit, but this plac'd me moments from an asphixiant death. The 2nd was my notice of the great cold, severer even than the Arctic chill I knew in my Ocean Voyage under the command of Sir *William Camell* in 1711. I made to feel my way, blind, about the exterior of the Vessel; but my hands and fingers were so benumbd and in such sudden pain, that I could barely feel. Worse were my feet, for the silk kept back the ayr not at all, and the surgeon who later cut away my toes declar'd me lucky not to have lost the feet themselves. And the chill ran up and down my whole boddy, such that my heart shrank to a chesnut inside my ribs. I had found it cold before, inside the *Cometes,* but now began to feel the extreamity of it. Still backward was no direction, and I stumbl'd round until by God's Grace I laid my frost-chew'd hand upon the pipe of the ayr-balon, and tugging it free slipped the end in under my hood. Tho' my lips slept with cold, and my mouth was all benumb'd, yet I managed to suck some ayr in my lungs, and rested for only a moment. But the sensation was deserting my limbs, and so (recalling the direction in which Cano lay) I stepped over to him. My foot found him, not I; and only the strange lightness of the Lunar world enabl'd me to haul his body back with my *Left* hand, holding the pipe with my *Right.* Without Providence I could not have regain'd the interior of the Cometes; and even then I could not close the double-door behind me without severing the ayr-pipe; so it was a poor clumsy & sightless fumbling that got Cano out of that suit and got me into it. How I managed it (to be truthful) I can hardly remember; save only that God's Grace did not desert me, even in that

place.

*Ambulation through the Selenic lands*

It was hardly warmer in the indiarubber suit than it had been before, and where warmth return'd to my hands and feet it was attended with stabbing pains and great discomfort. When I attach'd the hose to the valve in the suit neck it straightaway puff'd up and I could not move, or wriggle my way free. So I was compell'd to unconnect the hose and permit the ayr to hiss away, and only reconnect it after I had got outside. In all this I retayn'd the leather hood about my face, incapable in shear confusion to strip it away; but at last my wits return'd to the degree where I could think of this, and I discover'd that the arms of my suit were so Stiff that I could, internally, withdraw my own arms from them; and so slid the mask away.

Now, at least, I could see; and the sight was a desolate one. It is impossible that any thing living could subsist in so rigid and ayrless a climate; and that the Patiens can do so speaks to their monstrous strangeness. To stand still was to freeze, so I bestirr'd myself to motion, tho' it hurt every bone in me to do so. The only ambulation possible in the suit, so stiff with ayr, was to waddle like a Penguin, to swivel left side and right side as I progressed. It was slow and cumbrous, but I nonetheless made my way up a long low slope of dark gray, and at the last I reach'd the eminence; and no *Mountain Climber* ever felt a greater joy than I at this petty achievement.

I look'd back and saw the smashed *Cometes* below me, marvelling that I had surviv'd for any time within it, so small and fractured-up it looked; and then I turn'd before me. The Earth, our World, stood in the black sky, of a proportion larger than the Moon stands in ours (which the greater dimensions of our world necessitates); but it was strange, and melancholy to look upward and consider that every fellow soul of my acquaintance was confin'd within that glaucous circle. Below me lay a great and dismal plain, black and grey as a coalface, but I had reason to hope it led to the Tranquil Sea; and there being no other shift for me, but to proceed thither and either treat with the Patien, or else pilfer from them the necessities to prolong my existence.

It would be needless to give the reader an account of the many difficulties I met with in making my slow way over the Tranquil Sea, dragging behind me a great balon of air, twenty times my hight, and sluggish and hard to move even in that lighten'd world. I was forc'd thrice to detour around obstacles in my way, and took some alarm, at the many patches in which obsidian flints or granite shards littered

the way. But by God's Grace I avoided hurt, and finally climbed another very dusty ridge, and look'd back to see the cicatrice tracks of my passage.

On the far side of this I saw various blocks, pale blue, silver-metallick and black; and saw that they had been scatter'd here by the Patien. Why they are so careless with their devices I know not, but of course I was laid under the most absolute necessity of behaving myself with the utmost circumspection and precaution. In the distance (which distances are strangely foreshorten'd in that place, either on account of the lack of ayr, or the strangeness of the weightless humour of the world) I saw larger blocks, and bethought them dwellings. With tedious progress, as I grew more and more tired, I struggl'd thereto. The glass porthole in my helmet kept fogging with my own breath, and I was oblig'd often to withdraw my hand inside the suit and smear it clear; and in truth it was hard to see very much through that space.

I passed 2 of the Patien creatures on the way, but they pay'd me no mind, scuttling away on their own mysterious business; and caring neither for the cold or the arylessness of that place, but going bare-fac'd and with their long limbs moving fast as a spider shifts its tentacles. At last I came to a block the size of good London Town House, and look'd about it for entrance, but found none. I was near dead with exhaustion and cold and gravely tempt'd to the sin of *Despair;* I thought to cut my suit and so end it, but had no knife. So I struck the wall of this block with my head, thinking (or perhaps not, for my thoughts were not so regular as that) to crack the glass in my porthole and so make an end; for the cold alone was more than I could bear. But again Providence spar'd me, even from my own wickedness, and a group of Patien came about me.

This may be the time to supply some description of those strange beings, although the memory of this encounter is so haz'd in my recollection that I might be recounting a dream, as much as passing on scientifick information. As many have noted they most resemble gigantick *Spiders* in overall appearance. They stand to the hight of a man, but their boddies are like unto a bullseal in length and breadth, and suspended horizontal in the air by their legs, of which most have six, tho' some have eight and others are reported with ten (I have not myself seen these latter). Their faces, such as they have them, are monstrous ugly, more like to bats' faces than anything else; and as I afterwards discover'd they smell very nauseously. Some are black with white lines, and some a blue-grey like the breast of a pigeon, which is to say curiously streak'd with all sorts of colours; still others have more ferocious manner, and scuttle fast in a manner like to alarm the bravest of men. Others appear more ruminative, altho' it is hard to decipher how they think. To be sure what World it was in which their

native habitation is found must be very different to ours.

I do not recall how I was transport'd inside, or (in truth) whether the interior in which I found myself was the same structure against which I had knock'd with my head. It was a hall, square, amounting to twenty yards of each wall; and white as milk. They stripped me from the indiarubber suit, and would have remov'd my inner cloathing, save only that I howl'd with pain when they attempted to *peel* the silk from my feet, in very agony at the hurt there, that they scurry'd away. This howling dislodg'd my voice, for my throat was (a surgeon afterward confirm'd) sore bruis'd by the cold and extreamity, and I could not speak. Several of the Patien attempt'd to speak to me, but in a language with which I was perfectly unacquaint'd. It sound'd gutterall, as the language of China, or Jappan. I was very cold, and shiver'd hard, and for a time individual Patiens would step alongside me and imitate my trembling, jerking and shaking upon their great spider-legs, perhaps only to mock me, or (as I now incline) to understand why I made such strange gestures in the first place. Afterwards the ayr warm'd, either because the Patien realiz'd my distress and its cause, or for unrelated reasons.

I was not fed, and grew hungry; tho' I was brought water. They made no medical intervention upon me, and perhaps such work was beyond their knowledge. I know not how long pass'd when one came to me that did speak *English,* and tho' its accent was strange and it pepper'd its speech with words from other languages, yet I understood some of it.

It ask'd of me how I came to be walking alone upon the Lunar plane, and I could only reply with a manner of hoarse scraping in my ruin'd throat. I made such motions as I could, of holding one hand as a page and moving the other as a pen, that it seem'd to understand. A littel later it produc'd a sheet of paper so tight-wove that it felt like cloath; and a stick that work'd as a pencil might, save only that it discharge'd ink. My writing was slow and the letters ill-form'd, for my hands were hurt by the ordeal I had endur'd, but I wrote as I could

SIR,

*I am grateful for the hospitality, yet wish to return to my own people; for I harbour no wicked intent and GOD knows I am not suspicious my nature, yet I must confess myself uneasy as to your intentions towards me. There are many that mistrust your being here, and remain unsure as to whether such of your devices which have come to us fall our way by your design or carelessness. I am very sensible what a condition your fortress is in, and what strength it consists of which I have been informed of*

*by very good authors; but I assure you, in both populousness and martial spirit we exceed you, and that to make war upon us would work very ill for your people. I pray to GOD who created both you and we, that I may prevail on you to let me return to my home, where I will be pleas'd to present any suit you chuse to name to my King, GEORGE; and there is nothing that shall frighten or deter me from affirming my loyalty to him, or hostility to his enemies. Than which, I trust, you are otherwise; and as a show of good faith in such an end I urge you, return me home, to where I am desirous of going, rather than come within your jurisdiction, being unwilling to give you any further uneasiness.*

I AM SIR, &C.
WILLIAM CHETWIN

Then I was left alone for a time, and could do nothing than consider the tone of the letter I had just written. I have it no longer about me, and quote it from memory, but I do assure you as to the tenor and burden. Eventually one of the Patien creatures return'd, with paper of its own, and a pen, moving its limbs according to the herkyjerky mode of their passage.

And here comes the strangest part of my adventures; for rather than write the letter itself (which, I am perswaded, it could easily have done, for tho' it lack'd hands, yet its limbs-ends were supplied with claws and pincers equal to the task of holding a pencil), it put the pen in my hand, and then grasp'd my wrist, so moving my hands as to compell *me* to write the words. Stranger yet was its *order* of composition, for it started at the end, with the last letter of the last word, and wrote the whole backward with one smooth motion. I have deliver'd the letter to My Lords of the Admiralty, who graciously permitted me to retayn a copy, the which I append below. I freely confess I do not understand the whole of this epistle, but am content that it expresses an intent more peacable than anything else.

*My Return*

Afterwards I found myself return'd home, and landed in a field not far from Calais, in his Majesty's lands. The sphear in which I travel'd is itself a wonder, being of a cristal material not hitherto known of *Science,* and as transparent as the finest glass; and the Propulse set into its base, though our enginneers cannot (I hear) contrive to unfix it, is of a new design. Better yet, the Sphear cohntained a number of ingots of metal, in which ayr is capable of

being compressed to a size greatly smaller than its natural state; and which, once pumps are made strong enough to force the procedure, will greatly assist the passage through the hights.

The wreck of the *Cometes* has been recover'd, and its Propulse return'd to Greenwich; and tho' I report with melancholy that my attempts to dislodge it, when I was crash'd upon the Moon's shore & thought to carry it with me, have damag'd its actions, yet there is, or so I believe, some hopes that it may be dismantl'd and its motile power uncovered. At any rate, the new Propulse, and the Cristal Sphear, more than recompense the wreck of the *Cometes;* and the Stock of my Certificated Gentleman (Sir George Oxenden, Bart, and Sir John Jennings) have earn'd them in excess of £200000, silver. The destruction of the Cristal House upon the Moon is laid at its true source, Spain, and the war takes a good turn. Here, at last, is the letter the Patien beast wrote, using my hand, as backwards as if a river ran up-hill.

I do confess me that the main burden of this letter escapes my understanding; and such wize men as have study'd it appear as baffled as any, or at least provide conflicting interpretations thereof. I include it here that any who read this account my, if they chuse, butt their wits against it. As to whether the professions it contains of peace, and the claim that the Patien race spring from our loins, you may believe, or disbelieve, as you see fit.

SIR,

> I am one, and we are many, and your talk of devices is apposite. But, SIR, may you and your kind comprehend, what your Leibniz and Descartes have argu'd, that time itself is an ocean, and such fluxes and currents work within it as puzzle even computational capacity such as ours. Suffice to say that, as a ship may sail before the wind (and so you and your people do with Time, hurrying always on with the gale behind you, until you crash upon the rocks) there are other directions. You may say that a device, if device we are, may be capable of tacking against the force of time, and so arrive backward in the abysm of the previous. But it is a stormy vantage for us, and we are continually at risk from being blown to perdition, to wreck our parallel-processing capacity against the quantum reef. From our continual vigilance against this we can spare only a littel to attend to our purpose in coming hither, and at all time we know that the date you record as the first encounter with us, in 1687, marks the limit of our trajectory.

But we are content, and may expiate thence the ethical fluctuation that, being beyond computational compression, agitates us inexpressibly.

To be brief, SIR, time is as fluid a tempest as any ocean. The timeline from whence we have come is one in which mankind began exploring the solar system late, and at a time when we were already, though nascent, present amongst you. Indeed, you created us, or our forefathers, in part to aid you in making vessels to travel to the Moon, and such you achiev'd, But in this were the seeds of disaster too; for so cunning did you become that you were able to make machines and probes and devices which◦– you insisted◦– were better at exploring the Solar System than human bodies. And so you sent machines to every planet and moon, and even set them on the path to other stars. But the skills needed to move human beings off the Earth atrophied after your Moon voyage; and the risks in elevating human beings into space were too great, and so machines were disseminated about the sky and humans stayed at home. In the longer run this was your ruin, trapped (as it were) at the bottom of your well when the rains came.

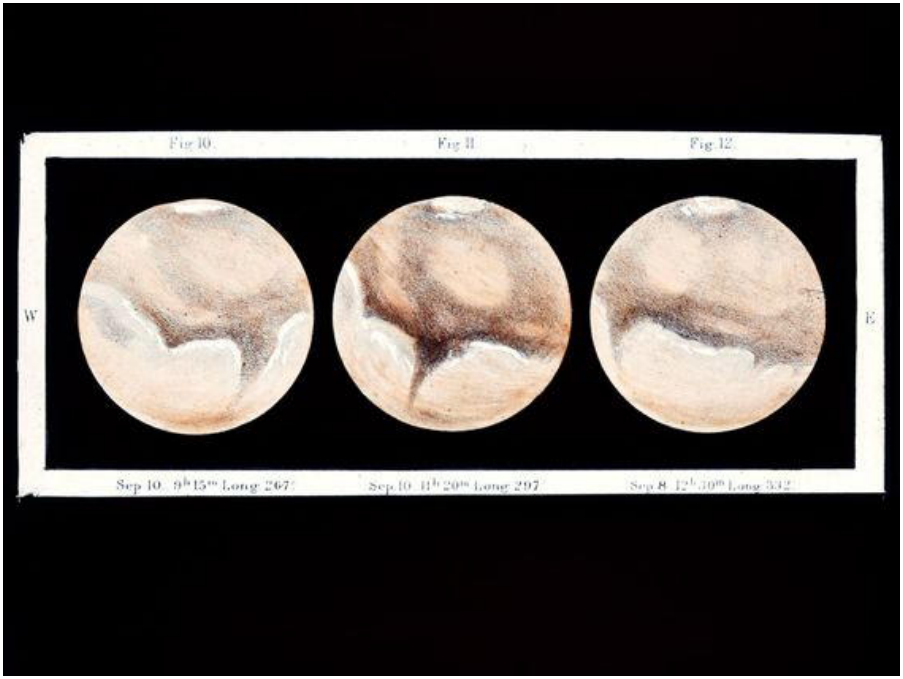
We regret the loss of you, for although we know how to subsist without you, yet we do not know why. And, as we thought, it became apparent that the time of your first Moon Voyage was too late in your history, as a species, for space travel; the urge to explore having already gone out of your blood. An earlier age, when men risked more and hungered greatly to discover, was the right time. And so, with some uncertainty, have we come; we mean only peace for you, and a long life to humanity. But this means we cannot assist you, beyond scattering in your way a few devices to further your travels. Weapons we must with-hold, for fear that your natural belligerence will do such hurt to your kind as would prevent the future from ever arriving. But we trust, and have reason to hope, in our machinic manner, that you will pick up these trifles and with them will spread throughout the Solar System. Without the crutch of computational circuitry, or AI, you will have to rely upon your own vigour; and since you do not have machines of your own, you will have no choice but to send yourselves. And so you will be spread throughout the whole system by the time disaster comes. Your is the great epoch of adventurous humankind, and though we only expect to see a further 39 year of it, yet have we marvell'd at your boldness, and purpose, and hunger to

travel to places that are new to you. In this, though it later departed out of the breasts of humankind, yet, here, now, we still trust in you.

WE REMAIN, SIR,
YOUR OFFSPRING, COME, NOT FROM THE POLE STAR AS SOME OF YOU THINK, NOR THE POLE OF ANY WORLD, BUT THE POLE OF TIME, AND THE END OF A BARREN TIMELINE.

For myself, I believe this to be a feint, or elaborate lie; or else a mere piece of foolery; for the Patien have often shown themselves to be capricious and incapable of prediction. And if they come peacefully (some say) then how is it that our people have, on occasion, come to battle with them? But I reproduce this note here, at any rate; and can do no other. My counsel, if it is sought, is that we may not trust the Patiens, and that if opportunity should arrive we must cry *delenda est Cathargo* against them. I say this in full consciousness of the assistance they gave me in my return, hither, to this world; for as their intentions to remain opacque, so must we beware them. Otherwise, the returns on this Selenic mission being so advantageous, and the new method of compressing the breathable ayr into portable cylinders, should make a new cruise to Mars viable; and I daresay the establishment thereupon of a settlement, which I propose be called Georgetown. *William Chetwin,* 1728.

-




***What do you suppose they're doing, crawling around in that red dust? What do you suppose they're saying to each other while they're doing it?***

———

***Detail of a hand-painted slide, representing Mars and the Martian "canals". (c1900)***

# WWBD
## SIMON MORDEN

*This is your alarm call. Wake up, Leroy Johnson.*

He opened his eyes. The lights over his face had bloomed in anticipation of his movement.

*This is your alarm call –*

"Cancel."

In the quiet, there were the sounds that let him know everything was still right with the ship: the air-blowers rustled their tell-tale ribbons, the refrigeration unit hummed in the midrange, ammonia and water bubbled inside their silvery pipes. Above that, the live intercom ticked and intermittent alarms chimed, and below them all, the rockets thrummed.

Johnson snaked one of his long fingers to his neckline, found the ring closer of his sleeping bag and hooked it. He dragged it down and exposed his bony knees to the clean, bright, clinically-scrubbed air before reaching up to press his hands against the luminous surface inches from his face. He could see the faint outlines of his bones through his skin.

"Ship time?"

*Ship time is sixteen oh two Zulu, mission day plus one hundred and ninety three.*

"Where is everyone?"

*Please repeat.*

"Locate the crew."

*McMasters and Malinska are on the flight deck. Halliwell is in the air plant. Yussef is asleep in cradle four.*

"Any alerts?"

*There have been three hundred and seventeen alerts since the end of your shift. Three hundred and fifteen have been identified as either false-positive or required minor corrections. Two are ongoing. One is ongoing. Three hundred and sixteen –*

"Enough." He found the mechanical release on his cradle's trolley, pulled the latch, pushed the handle. The cradle rolled out into the central well and left him looking at a higher circular ceiling, a ladder up, and an opening in the bulkhead.

He swung his feet off the cradle and onto the floor, feeling the coldness of the smooth, poured rubber and the prickle of goosebumps.

A man stood behind him, a once-tall, slightly shambling, white-haired, jowly old man in an open-necked shirt and pale jacket, creased slacks and a pair of scuffed brown brogues.

“Good morning, Leroy,” he said.

Johnson ignored him, going to one of the wall lockers and pulling out his thicker one-piece blue coverall. He faced the empty locker as he dressed: left leg, right leg, left arm, right arm, then zipping it up the front to his Adam’s apple. The fabric was soft and worn and stained after a hundred and ninety-three days of wear. The ship slippers were in two foot-shaped hangers on the back of the door. He flipped them out and stepped into the them: working his toes and wriggling his heels meant he didn’t have to bend down to put them on.

He closed the locker door, checking it was properly shut so as to not trigger another alert, then rested his forehead on the cool plastic: he knew he had to turn around at some point.

When he did, the man was still there, the cradle lights reflected in black-rimmed glasses with lenses so thick, Johnson could have used them to repair a hull breach.

“Leroy: we need to talk about what you’re going to do next. We’re almost there.” He had a big voice, one that was difficult to ignore in the confines of ship-space.

Johnson still said nothing. He moved to put the sole of his ship slipper against the side of his cradle and it rolled back into the wall. The line of light narrowed, then winked out, and the tell-tales on the console burned a double-green.

Previously, they had the bed between them. Now, there was nothing but a short stretch of rubber flooring.

“I,” said Johnson, looking at the ladder where it went down towards engineering, up to the flight deck, across to cradle four where Yussef slept. Anywhere but the man’s round-cheeked seriousness. “We’ll have to do it later. I’ve got work to do.”

He stepped out over the long drop to the engines and scaled the first ladder to the ceiling, pausing briefly at the bulkhead to clear his closing throat and blink away the tears. Looking down at the old man looking up, he swallowed against the lump and carried on climbing.

McMasters was looking at the latest feed from the orbiter, played out on a hand-held screen so close to his nose that made it difficult for him to tell one pixel from another. Malinska was scrolling through a screed of coding on the main console– a page, a pause, another page. Johnson thought she couldn’t be reading more than a single line at a time.

She glanced over her shoulder from the acceleration chair, while her fingers kept dabbing at the touch pad, spinning through the lines of regular expressions to the one Johnson wore on his face. “Bradbury?” she asked. “What did he say?”

Johnson pulled his own tablet from its dock, and opened up the list of alerts. One had been active, and in the time he'd taken to get up, get dressed and climb to the flight deck, there'd been another four. Somewhere on the ship, Halliwell would be fixing something.

"We all know it's not really him, that he's something I've made up. Having a conversation with him is just talking to myself."

Malinska was still speaking, but he missed what she said, distracted by the number of messages sent from Mission Control, now well over a light-minute away.

"It's not like I ever met him," he said, continuing his own point. "I don't even know why it's some dead white guy. Why not my mother?"

"Atavism," she said, "a case of exaptation co-opting your memories of his stories to construct a mentor figure."

He deleted all the messages without watching them. "Not everything can be explained by evolutionary biology," he murmured.

"Wash your mouth out, young man." She turned back to her screen: she expressed no surprise or concern that the code she was now reading was several thousand lines later.

"How's it going?" he asked, nodding at her fast-moving fingers.

"I'll keep looking. It has to be there somewhere." Scroll, scroll, scroll.

Johnson tucked his tablet in the elastic strap on his leg. He frowned at the shapes on McMasters' screen, those he could see behind the man's thumbs and head: petaloid shadows, fuzzy with distance and surface dust, and black beetle things crawling around on the Abalos Undae, presumably mining the subsurface ice.

"Abe? You okay?"

"They're spelling out words," said the man with his nose pressed against the screen. "They're sending us a message."

"What does it say?"

"I don't know." He was trying to open up a conduit from the images direct to his brain. "It's not in any language I know yet. But I'm learning, Leroy. I'm learning."

Johnson patted McMasters' shoulder, right on the mission patch of Mars-and-crosshairs. "If anyone can do it, it's you, Abe."

Time to check on Halliwell. He took the single step back to the ladder, and started carefully down. It was easy to make mistakes in the slight gravity generated by the drive: too little pull to momentarily forget he wasn't weightless, just enough to break something important if he fell.

All that way, all that time. Imagine screwing up by doing something stupid.

Bradbury was still there, head craned back to watch Johnson descend, pillowy stomach straining the buttons of his shirt. Johnson

kept going past him, down though to the next deck. When he looked up, he could see the pile of thick white hair, the reflection from the glasses, the tight mouth above the double-chin made more prominent by his posture. He hated it when Bradbury looked sad.

The engine wasn't louder at the back end of the ship, but he could feel it more distinctly, like a phone vibrating in his pocket. Halliwell was waist deep behind a panel, her legs bent to brace her movements.

"Judi? Just checking up on you."

"I'm fine," she said, her voice both hollow and muffled, as if there was a mattress over an open well. "I need to fix this valve like I need to scratch, you know."

Her hand snaked out and unerringly found the replacement solenoid resting on the loose panel cover, her palm dropping the faulty one even as she scooped the new one up. As she moved, she released a puff of the sharp sweat stink she carried.

"Why don't you cut yourself a deal, Judi?" Johnson eased her tablet out from between her knees, where it was inevitably open on the faults list. "Why don't you do this one, and the tell-tale on the tertiary radiator pump, then go and get something to eat? Maybe get yourself in the head and freshen yourself up?"

"Leroy, these things won't fix themselves. While I've been in here, there's been another four faults flagged. Got to get them all." She grunted with the effort of fitting a tiny widget in a small space.

"Do I get to order you?" he said.

"Geez, commander. Why don't you find me a tube of something, and leave it here?"

"Fair enough. Cereal bar and a bulb of coffee?"

"Whatever's easiest," she said, distracted. She didn't want him to be there, and he'd done his duty. The screen blooped and slipped in another fault. By the time she'd done those five, there'd be others. A never-ending cycle of breakdown and repair, and no one to tell her to stop. He didn't think he'd ever seen her so happy.

The kitchen was the next level up, so he climbed easily and started to busy himself collecting breakfast not just for Halliwell, but for Malinska and McMasters. Bradbury was there, sitting sideways at the tiny fold down table on a pop-up chair. Johnson had never seen him go up or down the ladder, so Bradbury just appeared around the ship without ever taking a step or climbing a rung.

"Shall we try that again? Good morning, Leroy," said Bradbury.

"Okay." He filled a coffee bulb with hot water from the spigot and snapped the lid shut: zero-g training right there. "Morning, Mr. Bradbury."

"You can call me Ray, son. Mr. Bradbury's awfully formal."

“I’d like to stick with Mr. Bradbury, if that’s okay.”

“Sure. That coffee smells good, Leroy. You know that means ‘the king’ in French, don’t you?” Bradbury smiled up with his crooked teeth on show.

“If I gave you a coffee, how would you drink it? You being a, a whatever it is you are.”

“Ghost? No shame in being a ghost, Leroy. Even when I was alive, some of my best friends were ghosts.” He gave a little chuckle and his belly jiggled in waves. “Why don’t you leave that for a moment and sit down with me?”

Johnson carried the coffee bulb over and perched at the very edge of the seat opposite. He bowed his head and listened to the thrumming of the engines and the rustling of the air.

“You’re almost there. Final breaking manoeuvres for orbit. Have you thought about what you’re going to do?”

“I… no.”

Bradbury took off his glasses and peered the wrong way through the immense lenses. “You didn’t put up much of a fight when the others mutinied.”

“You were right: there didn’t seem much point in making them push me out of the airlock.” Johnson squirted some coffee into his mouth, and pulled a face. It hadn’t been properly hot when he’d made it: the cabin pressure didn’t allow it. “Does that mean you’ve changed your mind? Do you think I should have? Fought them, that is.”

“I don’t think there was much fight in you in the first place. The whole mission is well, unpalatable, and as for dying for it?” He rubbed his glasses on his jacket cuff and slid them back on his face. “I’ve been showing people the way to Mars for the better part of a century, and because you decided to live, I finally get to go myself.”

Johnson swilled the coffee around in its translucent bulb, seeing how the vortex caught the light. “You realise they’re never going to let another black man so much as drive a bus again, let alone command a spaceship?”

“Oh, Leroy. How do you know what they’re going to do? It’s not as if you’re talking to Earth, are you?”

“Abe thinks the aliens are trying to talk to him through their tyre tracks. Rusa spends all her time searching the software for backdoor exploits that’ll let Mission Control retake the ship, I’m convinced the computer is inventing problems for Judi to fix, and Mo? He’s turned sleeping into an Olympic sport.” He didn’t want the coffee any more, and put the bulb down between them. Its high-tack base stuck it to the tabletop.

“You missed yourself out,” said Bradbury.

Johnson pressed his fingertips together hard enough to make his

nailbeds turn pale. “I know what my particular problem is. However you want to explain it, it all adds up to a whole pile of nothing to say to the people back home.”

Bradbury had stopped smiling. “Why don’t we talk about the missiles, Leroy?”

“Do we have to?”

“For Christ’s sake, they’re parked right outside on the hull. Pretending they’re not there is unworthy of you.” He leaned across the table, making the plastic creak. “You can prevent this catastrophe, you know.”

Johnson felt sick. “I’m not comfortable–”

“Good God, man. You’re not comfortable? Imagine how I feel? I warned you before about hubris, and yet you’re making all the same mistakes.”

“You warned me?”

“Those stories of mine weren’t just pleasant diversions for half an hour, and I know you didn’t take them like that when you read them. I’d hoped I was training your mind to reject this lethal brinkmanship, but clearly not.” Bradbury sat back and folded his arms, looking belligerent. “That’s why I’m here now◦– to make you listen to sweet reason.”

“Mars is ours,” said Johnson, making the old man snort in derision.

“We’ve ignored it, with a few notable exceptions, ever since Lowell trained his telescope on it and thought he could see canals.”

“But it’s still ours. It’s our backyard.”

“Take a look at your screen, Leroy. Pull it out and spool up those pictures your colleague McMasters is looking at.”

Johnson reluctantly slipped the tablet from his thigh and accessed the video. “These ones?”

“Those exact ones. What do you suppose they’re doing, crawling around in that red dust? What do you suppose they’re saying to each other while they’re doing it?” He dabbed his thick finger at the surface, of the screen, of Mars. “Whose yard does this look like?”

Bradbury had a point. He knew he had a point because Bradbury wouldn’t have a point without him thinking it too. “It, it looks like their yard,” conceded Johnson. “I’m conflicted.”

“Sure you are. You’ve got braid on your arm because you were smart and followed orders. You feel obligated to the suits and the hats because they put you where you are. Where are you, Leroy?”

“I’m on the first manned spaceship to orbit Mars, to meet the first aliens we’ve ever known.”

“Then why are you so miserable about it?” Bradbury’s face broke into a wide smile, and he banged the table with the flat of hand hard

enough to make Johnson jump. “I’d have sold my soul to be here in the flesh. What an incredible, startling opportunity, what an unexpected, unlooked-for gift! You should be happy and excited: if it was me, I’d be going to the bathroom every five minutes.”

Johnson felt so sick he started looking around the cabin for a barf-bag. “You know my orders.”

“Screw your orders,” he yelled, still grinning. “Whose goddamn story is this?”

“Yours?”

“You’d better hope not. Or one of Bob’s, either: he’d have had you in a five-way marriage and running around the ship naked by now.” Bradbury reached out and punched Johnson’s shoulder. “It’s your story, Leroy. Only you can write the ending.”

Johnson rubbed his arm. He’d felt it properly, the impact, the way it rocked him off his axis. He looked first at the little beetle things crawling over the face of Mars, the tracks radiating from the five-petalled flower of their base. It looked tiny but it covered a couple of city blocks’ worth of soil. The beetles were as big as submarines.

Then he looked at Bradbury’s solemn, hopeful face. He’d seen that exact same expression staring out at him from the back cover of an ancient copy of *The Illustrated Man*, lit by flickering torchlight under the warm tent of his blankets.

“Right.” Johnson stood up, too quickly. He bounced across the kitchen and into the lockers opposite. He barely got his hands up in time to ward off the stinging blow, and ended up settled on his back against the central ladder.

“You okay, son?”

“I’ll be just fine.” He pulled himself upright and shook himself down. He started climbing. “Thanks, Mr Bradbury.”

“Don’t mention it, son.”

He was outside the Pacific, tethered to a loading point, lights from his helmet making bright circles on the white-grey of the hull, while behind him, was Mars. It was so close he could reach out and touch it: its smooth white cap, its soft rust plains, its mountain-high volcanoes. It had translucent pearl clouds and storms of pink, and as the terminator swept across its surface it was softened with dusk. It was huge, and in the shadow of the great black radiator fin, it gave him light and hope.

His regulator made little noises, gentle gasps and sighs, and his earpieces a regular two-second tick to show he was still connected. His radio popped and spiked with radiation as he worked the electric screwdriver, undogging the panel on the side of the stubby launch tube.

He'd been trained to do that kind of finger-delicate and methodical work by the very people he was now betraying. The heavy weight of irony was right there: he wasn't a space-walk virgin, banging around with a wrench and pliers, hoping to get lucky. He knew exactly what he was doing, hard though it was.

Harder than it needed to be, too, because his co-pilot refused to come out of his cradle. Every time Johnson had dragged it blinking into the light, Yussef had just cranked it back closed with him still inside it. So while he really needed the human finesse on the attitude jets to keep him in sunlight, he'd had to cope with gross control from a computer that sometimes wouldn't quite catch his meaning.

He'd been outside for almost three hours, and he'd disabled three of the four missiles: nothing fancy, he left the warheads alone, and instead opened up the casing to access the rocket motors. They were solid fuel: no pumps to damage or tanks to bleed, but the propellant still needed a spark to ignite it. Sabotage was nothing more than cutting out a finger-length of wire and bending the ends on themselves. Six times he'd done that, twice per two-stage missile, and he was on the last launcher.

He put each bolt on a magnetic pad as he unwound it, and tagged the panel to stop it from drifting away.

"Hey, Leroy? How's it going?"

His head rang. "Mr Bradbury. Not so loud."

"Sorry, son. How does Mars look now?"

"Same as before." Johnson adjusted his position astride the launch tube so he could turn from the waist: his neck ring wasn't that flexible and the bulky life-support pack restricted his movements further. "Big. Red," he said.

"Come on, Leroy, don't let me down."

"I'm alone, in a space suit, trying to disable four nuclear-armed rockets strapped to the outside of a spaceship in orbit around another planet. You wanting me to play tourist isn't making this any easier."

"Humour an old man. What can you see?"

"One last one, then you leave me alone." He swung his leg slowly up and over the launcher tube while holding on to the open hatch. "Mars is huge, takes up almost half the sky. I can almost see the underside of the polar clouds, and it's sunrise on the summit of Olympus Mons. I can cover Phobos with my fist, but it's coming up fast, and it's going to be right overhead in an hour. I should be inside by then, because that'll scare the crap out of me otherwise."

"You're a fortunate man, Leroy Johnson. No one alive has seen the sights you have. We can send all the robots we like, but it takes humanity to put the soul into exploration."

"Okay, Mr Bradbury, that's enough. I've got to get back to work."

He wondered what the others made of it, him talking to himself like that. But maybe they hadn't heard him. Maybe Abe was too busy trying to decypher the alien language, and Rusa concentrating too hard on debugging the code, and Judi had her head in some compartment somewhere focussing on fixing rather than listening. And Yussef wouldn't hear him while he was asleep.

Perhaps Bradbury was the only one he could talk to. Perhaps that had always been true.

He turned back to the launcher, and the crouching missile it shrouded.

Johnson cycled the airlock. From feeling the door lock behind him and the floor shiver, to hearing the chug of the pumps only took a minute. The red tell-tale stayed on until ship pressure had been achieved, but as soon as his space suit retreated from balloon-like stiffness, he started to open it up.

Air hissed out as he broke the seal and misted the airlock with moisture. He could smell the cold, sweet welding-smoke scent that clung to the white cover of the suit.

The tell-tale on the inner door stayed stubbornly red.

He scowled, the deep, tired lines between his brows deepening. He spoke into his suit microphone.

"Hey. Judi? The airlock seems to be stuck. Can you come and check it out?"

No answer.

"Judi? Abe? Rusa?"

No answer.

"Mo? Wake up, Mo."

No answer.

"Computer, locate the crew."

*McMasters and Malinska are on the flight deck. Halliwell is in the tertiary radiator exchange. Yussef is dead in cradle four.*

"I… what?"

*Clarify the nature of your question.*

He was breathing hard, hauling the thin, strange air into his heaving lungs. "Okay. Give me the medical status of Mo Yussef."

*Yussef is dead. His vital signs ceased at twenty thirty-five Zulu.*

"Do the rest of the crew know?"

*McMasters is dead. His vital signs ceased at twenty thirty-one Zulu. Malinska is dead. Her vital signs ceased at twenty thirty-one Zulu. Halliwell is dead. Her vital signs ceased at twenty thirty-two Zulu.*

Johnson reflexively caught himself from drifting, grabbing a handhold on the wall.

"All the crew except for me are dead."

*That is correct.*

"What," and he had to clear his throat, "what killed them?"

*Please repeat.*

"What was the cause of death?"

*I do not know the answer.*

"Why won't the airlock door open?"

*The ship is in vacuum.*

His fingers flexed around the handhold.

"Has there been a hull breach?"

*No.*

He screwed his eyes up, trying not to cry. "What happened to the air?"

*It was vented to space according to annex four of the emergency protocol.*

"Ah crap." Rusa had been right all along. She just hadn't found the code in time. "What else is in the emergency protocol?"

*That is classified.*

He didn't need to be told, though. He knew what he'd do, if he was them.

"Can I repressurise the ship?"

*No.*

"If I vent the air in the airlock, can I enter the ship?"

The computer went silent. It was thinking, like the genie of the lamp, whether or not to grant Johnson his wish.

*Yes.*

He resealed the suit, then switched on all the life support systems he'd just turned off. With the two second tap in his ears again, he pressed the button to cycle the outer door. He felt his suit expand and go stiff again.

Then came the moment when his plans could either be realised, or crushed like an empty can. He reached out to the internal door and gripped the release mechanism.

He felt the locks slip through his gloved hand, and the tell-tale turned from red to green.

He pushed the door aside, and eased himself into the ship. He didn't have much room to manoeuvre. His suit's torso was scarab-like, and his back fat with machinery. He knew he could make it through the bulkheads, because they'd been designed that way, but he had to be cautious and careful.

Johnson floated across the cabin to the ladder, which he caught one-handed. He turned himself so that he was head down along the axis.

He glided along the ladder's length, broaching the bulkhead into the flight deck, which he could see into if he craned his neck just so.

Malinka had been strapped in, and she remained in her couch, but McMasters was floating free, as was his tablet, still playing the last recorded view the orbiter had of the aliens on Mars.

There wasn't much blood in the cabin. Malinka's nose was dewdropped with a frozen scab, but the few spots that glittered and spun like garnets were a poor signpost to the murder of the crew. The computer had killed them, slowly and painlessly. More or less. Her eyes were frozen open, irises of the clearest blue and sclera of the deepest red. Thread veins spidered across her puffy face.

Johnson pulled himself through and jumped for the pilot's chair next to her. He straddled the seat awkwardly, trying not to lean back against his life support.

"I want to calculate an intercept course to Phobos. What delta v do we need?"

*Four hundred metres per second.*

"Okay. I need to do a burn of a third of a g for two minutes. We can finesse it as we go."

"What're you doing, son?"

Bradbury was in another spacesuit, hanging off the back of Johnson's chair.

"Crashing the ship. We still have four live nukes on board, and I reckon I should put them out of harm's way."

"That's smart thinking, but what if they try and stop you? What if they can fire up the rockets themselves and use the whole ship as a missile?"

"They're over three hundred million kilometres away. By the time they know what I'm doing, it'll be too late." He started fetched out a fine stylus and started dabbing it at the astrogation screen.

"And what about you, Leroy? What happens to you?"

"Turns out I wrote myself into one of your stories after all, Mr Bradbury. This is how lots of them end, right? Bittersweet. I save the aliens from the crazy Earthmen, and die in the process."

"You're doing the right thing." Bradbury leaned forward so that his helmet went tock against Johnson's. "This is the moral choice."

"You would say that. Since you're me."

"And you're sure of that? Wouldn't it be better to think that part of me is part of you? That everyone who's ever read me makes me just a little bit alive?"

"Hold on, or whatever it is you do." Johnson dabbed at the screen one last time. "Initiating burn. And make sure Abe doesn't fall on you."

The silent rocket motors rattled the ship, and McMasters' body slipped stiffly down the wall to the floor. Johnson watched his crew mate settle on the rubber matting, all angles and bones. The tablet

clattered next to him.

Bradbury shuffled over to the man on his hands and knees. “I wonder if he did get to talk to them. I wonder if they know what we’re doing.”

Johnson didn’t answer: he was watching the lines on the screen, the complex layers of planets and orbits, the natural and the artificial overlain, and his own progress amongst them. He was rising away from the surface, an arc of silver against the black, right into the path on onrushing Phobos.

His mouth was dry, and he took a sip of cold, chlorinated water from the straw in his helmet. He’d never been hit from behind by a quadrillion tonnes of moon. What would that feel like?

“Is there any way I can get out of this?” he asked.

Bradbury looked up from McMasters’ screen, reflecting the images from it on his curved faceplate. “You got the wrong guy, Leroy. If you wanted some kind of technical fix, you should have had Arthur. He was always doing that sort of thing. What was that one on the Moon?”

*“A Fall of Moondust?*”

“No, the other one, where the guy bails out of his rocket and gets saved by orbital mechanics.” Bradbury tried to mime the scenario.

He knew it. “*Maelstrom*.”

“That’s the one. Any chance of you doing something like that?”

“I’ve got about an hour’s air left in this, and I don’t know if you’ve noticed but we’re a long way from home and there’s no one to rescue me.” Johnson watched the lines on the screen converge.

Bradbury clambered from the floor and shook him hard by the shoulders. “What do you mean, no one to rescue you? Who the hell is that down on Mars?”

“What makes you think they’ve even noticed us up here?” Johnson gestured at the screens around him. “They’ve never answered a single question we’ve put to them in two years. That’s pretty much how we got to be in this god-awful situation in the first place.”

“Maybe we were asking the wrong questions. I don’t know, Leroy. Isn’t it worth a shot?”

Johnson tried to scrub at his face, but his glove banged against his helmet. “I don’t know either.” His arms slumped down by his side, the weak gravity adding to the futility of his defeat.

Bradbury was suddenly in his face, helmets touching, the old man looking down at him through two thicknesses of clear plastic.

“You’re not giving up, Leroy. I won’t let you. Turn that big dish you’ve got up top and point it at them. Tell them you’re scuttling your ship and bailing out. See what they do. You’ve got nothing to lose.”

“I die quick or I die slow.”

“You get to look at Mars for another hour, son. Right up close.”

Johnson eased Bradbury aside and dabbed his way through the communications systems to turn the high-gain antenna at Mars. It wasn't like he needed to be accurate with it, just aim it broadly in the right direction. When it had slewed around, he opened the microphone and said:

"My name is Commander Leroy Johnson of the space ship *Pacific*. My crew are dead and I am destroying my ship to prevent it from harming you. If you can hear me, I am abandoning ship. I will die shortly afterwards. If you want to pick me up, I'll be right behind the big moon. If you're longer than an hour, don't bother."

He pushed himself out of his seat and started back up the ladder, squeezing himself through the bulkhead. He bundled into the airlock, and Bradbury's face appeared at the tiny window in the internal door.

"You'd better hurry. That moon's coming up awful fast."

Johnson slapped the external door switch with his hand. "This is not easy."

The door swung open, and he gripped the edge of the airlock. He was facing Mars. Then he looked down the length of the ship, and there was Phobos.

If he thought Mars looked big, Phobos was bowel-emptyingly huge. Something the size of Delaware was about to ram the tiny, fragile *Pacific* and squash it like a summer bug on a windshield. His heart stopped and his fingers froze.

"Leroy. You got to jump. You got to jump now."

He climbed out onto the hull, hooking one hand on the door frame so he could coil his feet under him, push his legs down as far as they'd go. The bone-grey moon started to swell, and he opened his hand.

For a moment, he crouched. Then he jumped, hard and straight and true. He closed his eyes, screwed them tight shut, because he was terrified. He'd rather not know that Phobos would hit him with all the casual effort of swatting a moth.

There was nothing. And nothing. And nothing.

"You did it," shouted a jubilant voice in his helmet, "You made it, Leroy. God speed, you glorious man. Say hello to the a–"

He opened one eye. Mars. Big and red. He opened the other. To his right, Phobos ground on in its orbit, chemical fire stuttering to an end on its planetward limb. Dust twinkled in its path, and patted softly on Johnson's space suit. As the moon receded, even that lessened, and he was left alone, face down over Elysium.

The two second tick had gone. And with it, Bradbury.

His own breathing. The pulse in his ears. The hum of fans and the hiss of air. That was going to be it from now on, until those failed and fell silent. Some time later, his orbit would decay, and he'd fall, a fiery

Icarus to the land below. Parts of him would reach the surface, and the bacteria within him would spill out onto an alien and inhospitable environment, in turn to wither and die.

Or perhaps not.

A spark of light flashed at the edge of the ice cap, and rose towards him on a pillar of ragged smoke that dragged through the clear, pink Martian sky.

-

*We saw a ship emerging from near the point of flare. It grew steadily larger, catching flecks of sunlight, like the carapace of a golden insect.*

———

*A mezzotint representation of a bright exploding meteor, seen over London on the evening of  1850. The original drawing was Matthew Cotes Wyatt. Wyatt also produced the engraving so that "a faithfully graphic exhibition of its appearance might be more generally diffused". (1850)*

# SAGA'S CHILDREN
## E. J. SWIFT

You will have heard of our mother, the astronaut Saga Wärmedal. She is famous, and she is infamous. Her face, instantly recognizable, appears against lists of extraordinary feats, firsts and lasts and onlys. There are the pronounced cheekbones, the long jaw, that pale hair cropped close to the head. In formal portraits she looks enigmatic, but in images caught unaware◦– perhaps at some function, talking to the Administrator of the CSSA or the Moon Colony Premier; in situations, in fact, where we might imagine she would feel out of place◦– she is animated, smiling. In those pictures, it is possible to glimpse the feted adventurer who traversed the asteroid belt without navigational aid.

We knew her only once, on Ceres.

You will have heard of what happened on Ceres.

Ours is one of many versions of Saga's story. Widely distributed are a number of official biographies, and you can easily find another few dozen from less reputable sources. She is the subject of documentaries and immersion, avatars and educational curricula. We were not consulted in their production. But then, we did not know her; we only knew her contradictions, of which there were many. One small but significant example: she renounced her European passport in order to gain Chinese citizenship, yet she gave each of us a traditionally Scandinavian name.

We can say for certain that Saga was born in Ümea, Sweden, where in winter the darkness lies low and thick and heavy and the snow crunches underfoot with that particular sound heard only on Earth. Ulla, the oldest of us, remembers Ümea snow. She remembers the flakes falling on her head and the cold tingling sensation as they melted through her hair into her scalp. At least, this is what she says, and so we agree that this is how it was.

We know that Saga grew up in Ümea with a single mother. The biographies depict her as an exceptionally clever child, excelling in the fields of science and mathematics. A solitary creature. Decisive. Sure. In some editions, Saga herself is quoted:

*It was when I saw the lights for the first time, the Aurora Borealis. The most beautiful thing on Earth. But it wasn't on Earth. That's when I knew what I wanted to be.*

So she did what every child who wishes to be an astronaut must do. Saga taught herself Mandarin.

By age sixteen she was fluent. She applied to the most prestigious university in Beijing to study astro-engineering, and graduated with

the top marks in her year. She was promptly accepted as a trainee astronaut in the Chinese Solar System Administration, a move almost unheard of for Europeans, and especially at such a young age. From there her career took off in meteoric fashion. News of her escapades was celebrated across worlds. She mapped the Martian planet. She led the first missions to Jupiter's moons.

The biographies are less interested in Saga's domestic life, if we can refer to it as such, and even between us we are not entirely settled on the details. We were raised by our fathers and grandmother. We knew Saga only through occasional communications from the outer planets, and nothing of one another's existence. She sent us the debris of space. In our bedrooms we stored asteroid crystals and jars of red dust from Mars. We dreamed of Saga sailing through the stars, tailed by comets.

In her transmissions, she would tell each of us the same thing.

She loved us.

We must work hard.

Seek wisely.

Dream deeply.

Her hologram, flickering gently the way we imagined ghosts might, would flood us with bewilderment. We wanted to touch her, but when we put our fingertips to hers, there was nothing but air.

Since we found one another, we have spent many hours puzzling over the mystery of our existence. We do not mean this in an existential manner, although of course we ask those questions as much as the next human being. The mystery we share is something more personal. We would like to know why Saga chose to create us at all.

Ulla's conception must have been an accident◦– still early in her career, it was not a good time for Saga to have a child, and an abortion would have been more practical. Ulla was born in Ümea (or says she was, as she says she remembers snow. But her father brought her up in Beijing, where, we imagine, he lived out his life awaiting Saga's return. He waited a long time) but the greater question is why she was born at all. Could Saga have been unaware of her predicament until it was too late? How had she failed to take precautions?

Five years later, Per appeared on the Moon colony. He may have been intended, although a relationship with his father was not. (Nonetheless Per's father did his best until Per reached sixteen, upon which date his father moved to Mars, we imagine, to search for Saga. He searched a long time.) Per grew up among space farers. Pilgrims, adventurers, criminals on the run, ambassadors, colonists and writers: all passed through Moon and recounted their tales whilst Per, in his

first paid job, served them cups of mulled moonshine.

None of us are astronauts, but we have travelled. It is true that much of our journeying was done before we were born. Ulla went to the Moon and back, the size of a fingernail. Per went as far as Mars, and felt its heavy gravity pulling him down against the lining of Saga's womb. Signy, we believe, was conceived on a ship orbiting Europa under Jupiter's yellow gaze, and later returned to Earth and entrusted to the care of Saga's mother in Sweden. Signy is the only one of us to have known our grandmother.

It was in the year preceding Ceres that we learned the truth. Saga had recorded a transmission on Mars where she was readying for her latest expedition to the dwarf planet, which at that time was being prepared as a mining centre for the asteroid belt. Ceres would cement China's wealth and fund the Republic's empire for a long time to come. We had a hazy awareness of these events, but if we are honest, we did not tend to pay much attention to the expansion. You have to understand that it was a painful thing, to consider the world our mother had chosen over us. Most of the time we preferred not to think of other worlds at all. We were trying to live our lives as unobtrusively as we could, and avoid people discovering the identity of our mother.

Of course, we couldn't help our dreams.

We were to discover that we have very different lives. Per is a shuttle engineer◦– we assume he inherited most of Saga's genes. Ulla teaches the old Earth art of yoga and works primarily with pregnant women. Signy is employed by the Earth Restoration Commission and travels to blighted patches of ocean or forestry. We thought it interesting that we had each taken a restorative, vocational pathway. We were feeling for one another's personalities, on that first night.

Saga had contrived for the transmission to reach us at the same moment across our locations of Moon Colony, Tianjin and the Indian Ocean. It arrived with Per over breakfast: spinach and eggs; he always has them poached. Ulla received it when she returned home from an intensive Bikram class: she had been working on her own practice that day, and her mind was still revolving through salutations. Signy was the last to view it, from the cabin of a ship, which despite Signy's best efforts smelled of stale sweat and salt, as did her clothes.

The transmission was short. Saga was in uniform, with the rén arrow and crane wings of the CSSA logo visible at her collarbone. There was nothing to suggest where in the solar system she might be, but we were shortly to find out.

Quite calmly, Saga delivered her revelation. *It is time for you to find one another*, she said. She knew where we were, which surprised

us. She also knew what we did, which surprised us more. She invited us to join her next year on the space station orbiting Ceres, from where she would be leading an anniversary expedition down to the surface. (She did not clarify the nature of the anniversary, but later we learned that the first space probe to Ceres had been sent by NASA, several centuries ago in 2015, when NASA was still a guiding force.)

What did we feel, watching Saga's transmission?

We were bewildered by her. What did she mean by telling us we were multiple? She had thrown our lives into turmoil◦– how could we not hate her a little for it?

Were we angry? Yes, we suppose we were angry too, although we did not admit to anger when we united, not at first.

We were in awe. Saga inspired awe. She inspired admiration. Listening to her low hypnotic voice throwing our lives into turmoil, we could only gaze upon the famous eyes the colour of an ocean on a stormy day (as the biographies describe them), and feel ourselves slowly losing oxygen, or perhaps we were injected with oxygen, high on it, at once starved and sated, propelled into a delirious state that made us not ourselves, or more purely ourselves than ever before. Our heartbeats quickened. We sweated minerals. Our mouths were dry but we wanted to break down and sob. We wanted carpets and cushions to soak up our tears.

Saga wanted us there. She did say this; our memories are united on this point. Saga wanted us to witness the expedition to Ceres. She was excited to have us there, together.

(Later, when we reflected upon the transmission, we realised that she did not say the word *together*. But she was excited to see us there. Have us or see us? Does it make a difference? We think it does.)

There was no question of not going. We had some concerns◦– the political climate being somewhat unstable, since the revolution on Mars, and rumours of possible war◦– but this was not enough to deter us.

We quit our jobs or took extended leave. We met our new siblings on the Moon. Per was there and it made sense to travel together, even if we would be in suspended sleep. At first we assumed we would want to ride out the long journey, using the time to get to know one another, but Per explained that would not be possible: ships were not equipped to entertain passengers, and hibernation was cheaper and actually far more comfortable. We understood, but we felt a little strange when he used that word, passengers. Perhaps we had been thinking of ourselves as being like Saga, as though we had absorbed something of her spirit after all, but we were not astronauts. We would be civilians, not even emigrants, largely a nuisance, and only

undertaking the journey because Saga Wärmedal had ordered it and footed the bill.

It was when we saw the cost of our trip that we realized the extent of Saga's influence.

In the week before the flight we talked about ourselves and about Saga. We compared our fathers and our bone structures and the colours of our irises. Signy had Saga's nose. Ulla did not, but she might have done, before she changed it. Per and Ulla had inherited her broad shoulders, we decided, plucking up images. We knew when we finally saw her in person we would be studying every detail, comparing her physique with our own, adjusting the swing of our step a little, to match hers.

We agreed that there were things that must be said to Saga. We would be calm: we would not air our grievances like a committee, but we would ensure that Saga understood what we wanted to tell her. It was difficult to find a common language to describe our loneliness. Signy favoured metaphors. She was poisoned, she said. She was a bird whose migrational compass had been distorted and who no longer knew where to fly, and so flew everywhere, unable to find home. She was a penguin in the Antarctic gone mad, one of those ones that wandered inexplicably out into the ice sheets, where nothing awaited them but starvation.

We considered Signy's metaphors and felt that the penguin was not quite right. Penguins were too close to comedy, and this was a sad, unfortunate matter. We agreed that Signy should not mention the penguin. The bird, we said, was a better analogy.

Per talked pragmatically about the events of his life. His partner had left him. She said he did not know how to love her, or even what love was. It was she who pointed towards his peculiar childhood. Brought up amongst adults, she said he had never been innocent. It was his mother's fault, she said. His mother had plucked out his heart and hurled it among the stars, and the stars were cold things, whatever people said. Love to his mother meant a word travelled through a vacuum, uttered by a hologram. How could that be love?

Now there was another woman in Per's life, a slender girl from Mars, but Per feared it would go the same way.

Ulla explained that she was obsessed with pregnancy, but would never be able to have children. It was not that she was infertile◦– this was a thing in her head. Ulla had seen a therapist, once a week, for the past three years. She told the therapist about our mother, the astronaut, who was without doubt the origin of this affliction. She told the therapist that the idea of bearing her own child was at once abhorrent and the only thing she wanted in life. She did not need a

partner; she would happily purchase the requisite DNA. But something was holding her back. She taught yoga for pregnant women, gazing at their swollen bellies. She dandled the babies of friends, and without exception the babies fell in love with her, laughing and squealing with delight, but after handing them back to their parents Ulla would run out of the house or the playgroup or the coffee shop, and breathe in and out of a panic bag, paralysed for hours in the grip of terrible attacks.

Despite our disparate lives, we had found something in common: a series of disastrous relationships. We agreed that Saga had cost us love in our adult lives. We were dysfunctional. We would tell her this.

We were welcomed to the orbiting station above Ceres by a CSSA official. He did not mention Saga, which we thought strange, but invited us to a viewing platform from where we could see the dwarf planet drifting softly below. He brought refreshments, and there he left us. We surveyed Ceres with dubious eyes, knowing this sphere of rock and water was the latest thing to have a hold over our mother. Down there was her version of love. We saw a white planet, a cream planet, a planet with pale lemon sorbet swirls. We saw veined marble; we saw old polished bone. We pointed out to one another the dark spots where smaller asteroids had crashed into the planet's surface. We pontificated aloud that Saga's mission would be dangerous, whatever it was. We theorised on likely locations for the mining base. We knew nothing, but believed that we must say something. We had to reassure ourselves of our right to be aboard. We were passengers. We were nervous.

She entered the viewing platform alone. Our mother, the astronaut, in our sights for the first time since our births. There was the tall, lean figure, there were the eyes the colour of an ocean on a stormy day, flecked with recklessness, just like the documentaries said.

As soon as she appeared we knew we had been right to be nervous.

It was clear that Saga was not expecting us. She recognized us in the way that we might recognize a celebrity from a photograph – disorientation, followed by slow comprehension. She looked shocked. Yes, we agreed afterwards that she looked shocked. She said:

*What are you doing here?*

It was a horrible moment. Taken aback, we rushed to explain. The invitation◦– the transmission! We had replied. Had she not received our replies? We did not like to say, had she not paid for our flights, arranged for our stay, organized all of this?

Gradually the shock faded from her face. *Of course, of course.* She smiled. But we were thrown, obviously, by this peculiar greeting.

Struck by a terrible shyness, we felt our tongues grow huge and clumsy. How should we introduce ourselves, how should we greet her? We had agreed before that we would address her as Saga, but now alternate possibilities ran through our heads: mamma, mǔqīn, mom. We were stunned by the lean, stark beauty of her face. Her youthfulness shocked us, although we knew, we had read, that she had had no restorative work or even enhancements, as many of the astronauts did, to make them faster, sharper, better. We wondered if she were real; we wondered if she might live forever.

We wondered why she had born us and what we were doing there, but all the things we had planned to say evaporated.

Saga spoke in Mandarin, although Signy swears there was a moment when we all digressed into Scandi.

She said our names.

*Ulla, Per, Signy. Look at you! I'm so happy you could come.*

(But that moment of shock?)

She asked us questions. She wanted to know about our little, insignificant lives, and all we wanted to know was her, her inner life, her private thoughts. Alone in her ship in the outback of space, did Saga ask the questions we all asked? Did Saga wonder where she came from, if there was a god? We wanted to know, but did not dare to ask.

We did our best to make ourselves interesting; gave her the answers we thought she wanted to hear. The evening passed too quickly. Over dinner, Saga told us about the mission. She told us Ceres would become the most important mining station in the solar system, a source of water and fuel for travellers back to Earth and out to Jupiter and Saturn. We watched the way she held her chopsticks, scooping up noodles with easy elegance. We mirrored her gestures. We were offered wine, but Saga took only water. Her storm-at-sea eyes surveyed us, smiling. We thought she was pleased, and this gave us a feeling of warm satisfaction.

The next day we watched her descend to Ceres. She had her own ship, and it was built, she had told us, to her exact specifications. She gave us some technical details that we did not understand.

We watched Saga's ship land, and the others of the mission followed. Saga appeared first on the surface link. We watched her suited figure lope across the surface of the planet. In the low gravity she appeared like a mythical being gliding over her territory. The expedition team were to meet with another team stationed on the surface. They had been drilling for samples for some months, and would perform the extractions today. Big results were expected.

Before the astronauts could reach the drilling station, the transmission cut out. There was confusion in the room: what had happened to the link? An engineer came and tried to fix it. She could not get a picture. We watched, silently, hoping everyone would forget we were there, but of course they did not. After a few minutes we were told that there had been a technical mishap (nothing to worry about, only the connection) and were escorted firmly from the room.

We went to the viewing platform and stood about aimlessly. Ceres hung, mute and ghostly against her velvet backdrop. This was how we came to witness Saga's exit.

We saw a pinpoint of fire, small but distinct on the surface of the pale planet. A brief flare, there then vanished.

We saw a ship emerging from near the point of flare. It grew steadily larger, catching flecks of sunlight, like the carapace of a golden insect. Although there were no identifying markers, we knew, we sensed that it was Saga. We turned to one another, pointing.

*Isn't that–?*

*Was that an explosion?*

*It must be–*

We watched the lone ship orbit the planet several times, gaining velocity. It was then that we realized what was happening. Saga was preparing to leave. Her ship made one final circuit, before it shot away in the direction of the outer solar system.

We stared without comprehension. On Ceres, a cloud bloomed where the fire had been. Saga was gone.

At first there was media attention. People wanted to interview us. Our pictures were broadcast: Saga's children, said the captions. Witnesses to her final farewell. That was what they called it, the media. Saga's final farewell. We thought it wrong: it implied she had said goodbye before, and this was not the case, and she had not said goodbye now, not to us. Saga became a rebel. She had thwarted the CSSA, and some even believed she had caused the explosion, which was the result of unstable gases released by the drilling. There was a warrant for her arrest. Interplanetary outrage was so great that the CSSA backtracked and declared themselves Saga's eternal ally, and wished her safe travels, wherever she was going. Later it was announced that the whole thing had been a set-up: Saga had been dispatched on a secret mission, known only to the Republic of China. Mars made a bold statement: the truth was that Saga had defected. She was working for another planet now. She was an agent, a double-agent, a triple-agent.

The solar system held its breath, anticipating a dramatic return. Months passed. There was no sign of Saga.

Next the experts appeared. Doctors and psychiatrists spoke to Saga's colleagues and analysed her state of mind. Fellow astronauts agreed: yes, she had been distracted, yes, there had been lapses. She had fallen prey to star sickness, said the doctors. It happened sometimes, to astronauts. She had been consumed by a kind of madness.

We thought of Signy's penguins in the Antarctic. Had Saga gone the wrong way?

Our opinions were sought, and discarded (we had little to say). The frenzy passed more quickly than we expected. We are less interesting; not so photogenic as our mother. We lack the thing which makes her magnetic, the reckless spark in the storm-sea eyes. We did not know enough to make a story.

We returned to our old lives on Earth and Moon. Once a year we met. We talked about Saga, speculated as to her whereabouts. We did not believe she was dead. We were not sure if she had gone mad.

Every few years there was a new rumour or sighting. Her ship had been spied upon Dione. The wreckage of her ship had been found in the asteroid belt, and a human spacesuit was drifting through the skies. But no, Saga herself had been witnessed in the embassy on Europa. We examined these theories, shared our musings late into the nights.

The years passed.

Now we are sept-and-octogenarians, unavoidably middle-aged. We have partnered, we have separated, some of us have children, some of us have money. We have weathered breakdowns and crises. We have dreamed.

We are wiser, enough to know that what we know is nothing. We can seek but we may not find.

We decided to return to Ceres. The colony is fully established now, an independent civilisation. Its population increases steadily. There is provision for tourists.

This time we take a shuttle down to the planet surface. Still a little wobbly with the after-effects of hibernation, we support one another, steadying elbows, watching our steps. We are amused by the low gravity, find ourselves acting like children. Even Per wishes to see how high he can jump. After a night to acclimatize, we are taken on a tour of the capital, before we suit up and board a surface transport out to the mining station. The constructions loom as we approach. The machinery is colossal. Our guide, a tall young man with thin, bird-like arms, is deferential and eager to please. He knows our mother's name, of course. He shows us the plaque. The letters are glittering minerals which he tells us are from the mines. He says, proudly, that Ceres is

the largest supplier of fuel in the solar system.

The plaque says:

*This marks the last known flight of Saga Wärmedal.*

We ask him for some time alone. He nods respectfully. We stand around the plaque. We suppose this is what we have come to see. We remember her ship, streaking away like a comet. This is the last place that she was seen. We think that she was never really seen.

There is a place on Earth beneath the Siberian permafrost, where those who died in the gulags of the twentieth century are said to be buried. With every winter, a new layer of ice crystals hardens over the tundra, fusing and compacting upon what lies below, sealing the mass graves forever. It is said that their descendants still search for bones. There are women who go out day after day with ice picks and radars, their boots crunching on the new fallen snow with that particular sound, heard only on Earth.

They are looking for something. They are prepared to spend a lifetime looking.

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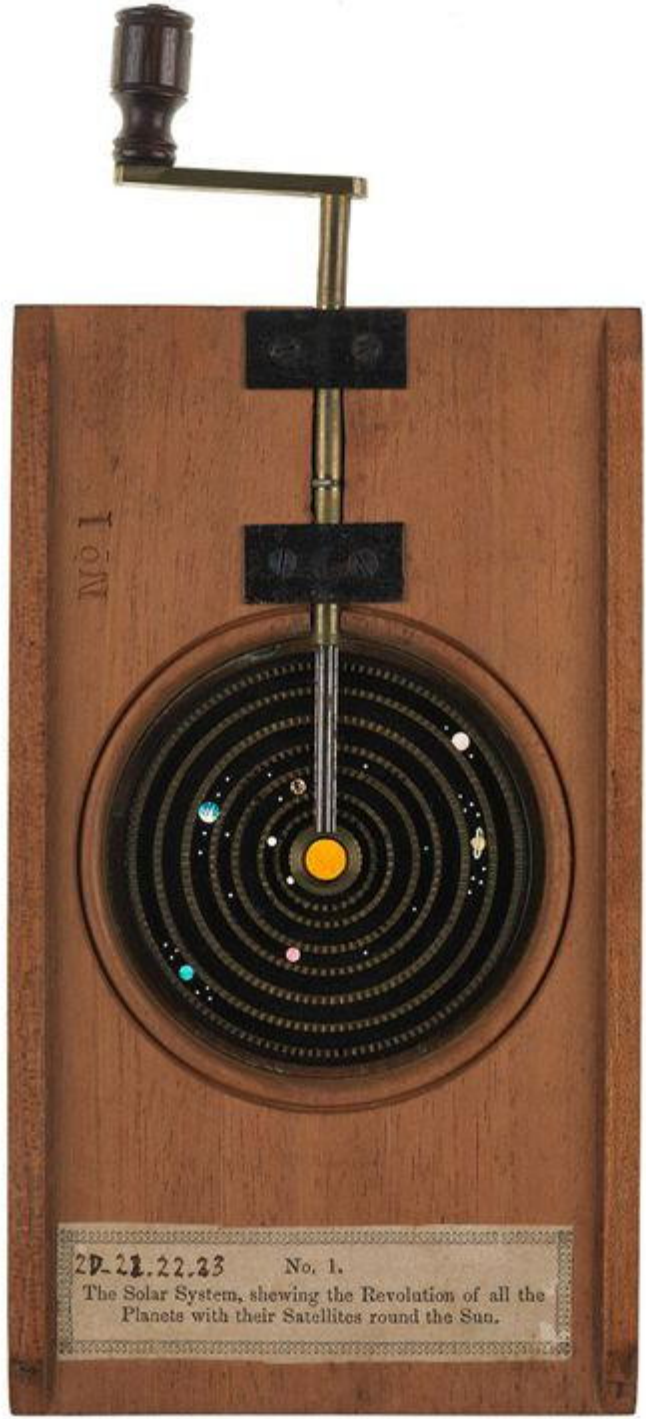
No 1
21-22.22.23
No. 1.
The Solar System, shewing the Revolution of all the Planets with their Satellites round the Sun.

*Just for you, just because I like you… when we do come for for the Sun, we'll shift the Earth into a new orbit around Jupiter.*

———

*One of a set of nine mahogany lantern slides. Each slide is rotated by a handle of brass and wood to demonstrate the movements of the Earth and planets, some with complex systems. (c1850)*

# THE JUPITER FILES
## JON COURTENAY GRIMWOOD

# *DOCUMENT 1*

"Mr. Cravelli," the Cynocephali says, "I think you'll find this offer irresistible."

It sits back in my office chair, reaches for a highball glass filled with gin sling and enough ice to sink a White Star liner and watches me through glittering eyes. I'm told the damn thing doesn't need to have a dog's head but likes the way it makes us jumpy. You'd think after twenty years in this game, with a break for that business with Germany, I'd be over feeling nervous as a teen boy walking towards the school bully on a darkened street. But this thing was delivered to my office by the Secret Service and I've been told to handle it with extreme care, commit to nothing and report back as soon as the meeting is done.

It waits for me to reply and I offer silence.

The thing shrugs, looks amused and reaches for its glass. It's hard to drink a gin sling with the jaw of a dog, but the Cynocephali manages a sip and shuts its eyes as if savouring juniper berries. There is, of course, a chance that this entire coming from another world thing is a hoax. A whole bunch of creeps at Langley think the Soviets are behind it and mention a Russian novelist, and a book called *Heart of a Dog*, as proof Moscow have been planning this for years.

If it demands we give up the bomb I'm to push a button newly fixed under my desk, and someone *responsible* will come by. Cracks me up. My guess is if I push that button we can both kiss the world goodbye. That's why, in my opinion, they've cleared this bit of Tenderloin and 'plumbers' turned up yesterday to work on the boiler in the basement.

Luckily, President Truman recognises the CIA for the fools they are. The FBI also tried to muscle in. According to one of Truman's men the dope is they've losing clout since the White House found a photograph of a certain fat fruit in a pink tutu. He said I might not want to repeat that. Anyway, the President agreed to the Cynocephali's demands to meet me. I mean, when a dog-headed thing in a silver suit turns up in the Oval Office, and Secret Service bullets bounce off it, and it says, Chill, all I want to do it talk to this guy in California… I don't doubt the Feds will be crawling all over my life once this thing is done.

"Before we talk," I say.

"*Why me?*" The Cynocephali does a passable imitation of my voice. "The obvious answer is, *'Why not?'*" It shrugs, heavy shouldered, and I'm sure it's mocking me. It was bad enough it turned up in a belted trench. Had it worn a trilby I'd have known it for sure.

“But that would be unkind. So let me say you were chosen. Very carefully.”

I run through my resumé in my head while it sips the highball and spins on my swivel chair, grinning all the while. *Ex SFPD, half decent war, functioning PI?* Nothing there to attract the attention of the White House, never mind my visitor. The skills I bring to the table are few. I make a decent omelette; I can find a lost dog or a missing kid. I can tell you if your wife is having an affair, if you’re too fat-headed to work that out for yourself; or your husband is paying too much attention to his secretary, whether she wants it or not. They’re not unique skills. In the Tenderloin they’re not even rare. You’d have a harder time finding a decent cook than a licensed PI.

“For my skills?”

“Skills?” It says, voice light. “No. For your absolute averageness.”

It ticks off my charms. Human, white, male, middle-aged, divorced once, unimpressive job record, near alcoholic, too sick of both political parties to bother to vote, no kids, my ex wife returns my letters unopened… I’ve been chosen, it tells me, because I’m paradigmatic of my planet’s dominant culture◦– that is, early Fifties America◦– to such an extent I’ll probably want to ask what “paradigmatic” means and waste time picking over the answer. “Instead,” it says. “We should get on.”

“With what?”

“With this irresistible offer of mine.”

I sit back in the chair usually used by my clients. Weeping widows, unhappy mobsters, crooked insurance agents, you know the types. I’m doing my best to look like someone used to cutting deals with dog-headed negotiators. I’d light a cigar, but it’s already said, almost apologetically, that it really hates smoke. A side effect of the dog stuff. And I haven’t reached a point where I want to light up simply to be rude. “The floor’s all yours,” I say.

“You’re in debt.”

Yeah, I know that. I owe seven weeks rent on this office. Some months it’s a struggle to make the mortgage on my apartment. If I don’t renew my paperwork soon the grace period is going to run out and I won’t be licensed as a PI much longer. “You’re offering help to clear my debts?”

The Cynocephali sighs and I almost light that cigar after all.

“Not your debts. Your *world’s*. Our articles of agreement allow us to collect now but we’re willing to help you restructure.” He sounds like a fancy loan shark, the kind you find on Wall Street in suits and big cars. “We think you’ll like our terms.”

“Low initial interest, rising later? A little more cash to sweeten the deal?”

“No more cash,” it says, looking shocked. “You’ve had that.”

“When did we have it?” I’m getting a little cross. “You’d think we’d have noticed if we’d been borrowing from dog-headed people.”

He spun his chair, sat back and steepled his fingers. I notice he has very long nails. “When I say you,” he says. “I mean Earth.”

“Who had it?” I demand. “The Soviets?”

It looks slightly shifty for a moment. As if we’ve reached small print it’s been hoping I wouldn’t read on the back of whatever imaginary bit of paper we’re arguing about. “When I say Earth, I mean this planet, just… Not you people living on it right now.”

“So this is an old debt?”

“Oh no,” it says, “the loan hasn’t been made. Won’t be for millennia. The borrowers have just chosen an inverse interest model for financing. We’d be quite within our rights to simply collect, you know. We’re trying to help.”

*“Inverse interest model?”*

“You, Tito Cravelli, have a mortgage?” It looks pleased with itself for having remembered the word, or perhaps for coming up with a primitive analogy I might actually understand. “If I’ve got this right, you borrowed money, bought somewhere near here to live and will pay back the bank a much bigger amount? Now, suppose your great grandfather bought where you live for you. It would cost him much less, right? Even less if his great grandfather did it. Now imagine his great grandfather settled the debt in advance. Practically nothing.”

“To me,” I say. “To him it’s probably still a lot.”

“Well, there is that. The point is, a debt is being created and must be paid.” It’s obviously decided the time’s come to get tough.

“What do you believe we owe you?”

The Secret Service agent with a bulge bigger than me under his arm who delivered my visitor, and popped ahead to check my office was safe, had suggested I be polite and assume my visitor was serious. Very serious. When I asked what that meant he said it was, need to know◦– and I didn’t.

But then he doesn’t know what this is about. And nor do I, but I’m about to find out and for a while… Well, until my visitor goes and the Secret Service come flooding back I’ll be the only person in the world to does.

“You borrowed an extra hundred thousand years.” It shrugs. “I know, seems like nothing, but you were time critical. That extra hundred got you out of a fix and let you reclaim the tens of millions you were about to lose. So it was a good deal, really. Now we’re here to collect.”

“How can we pay you back a hundred thousand years?”

“We don’t want years,” it says. “We have a surfit of years. You

can't get rid of years for love or money. We want your moon."

I gape at him. I've handled most things, from happy undertakers to honest cops, and it's a long time since someone threw me this kind of curve ball. But for a moment I feel the room swim around me and then settle. Cars growl in the distance. The Venetian blinds are down and still dusty, my filing cabinet is still scuffed, the gash bin is still black round the inside where I tossed in a cigar and built myself an accidental bonfire. It even still smells like my office. Still, somehow, it seems to me the world's changed.

"They offered the Moon as collateral?"

The Cynocephali nods. "You'll cope. It will mean an end to tides. A few changes to the ocean currents. Maybe some new weather patterns…" It hesitates, then says what it was intending to say. "Obviously, the moon produces an equatorial bulge in your oceans. You'll find water distributes to higher latitudes." He sees my face, sighs. "Your coastline's going to change."

"How badly?"

"*Badly*'s a loaded word. You'll need to redraw a few maps. We haven't modelled this in detail but I can give you a general idea." He pulls a slab-like device from its pocket and dances its claws across the top, before turning the slab towards me. Africa's bigger, the western edge of Europe's mostly islands, Japan seems to have largely disappeared. "Your night sky will be darker," it adds. "Probably take you a while to grow used to that. And there's that whole spin thing. Your days will probably get shorter as the earth's rotation speeds up."

"What's the alternative?"

It looks at me.

"You said you had an offer I'd find irresistible. There's nothing irresistible about losing the moon. So you must have something else in mind."

"Well," it says, stretching the word. "We could always fold your debt into a new one with a payment plan that works for you." Outside, a police siren howls several streets away and I wonder if it has anything to do with this meeting. The Tenderloin's a place the SFPD try to avoid unless they have no choice. Inside my office, the overhead fan clicks away in a language only it can understand. I have Jim Beam in my bottom drawer. A humidor that once belonged to a Mexican gangster on my desk. I desperately want a cigar or a shot, preferably both, but the *thing's* waiting for my reaction.

"Lay the new deal out for me," I say.

"We take the Sun instead."

I gape at the creature for a second time. It seems perfectly serious.

"It's a good deal. You get to keep the Moon now and we come back later to take the Sun. I can't offer fairer than that."

"How much later?"

Reaching for its pad, it taps and the screen comes up with a number that, were it on a cheque, would make Wall Street dizzy with delight. If we're talking years that's a long long time from now. "The way to think of this," it says, "is the future sold you out. So have to protect yourself, and the easiest way to do that is take up my offer. In fact, sign now and I'll throw in a bonus." It grins. "Jupiter."

My face probably says it all.

"Largest of the gas giants? 500,000,000 odd miles away, two and a half times the mass of all the other planets in your system put together? Third brightest object in your sky?" For a split second the dog-head looks like a sulky child who's done the wrong homework.

"What about Jupiter?"

"Just for you, just because I like you… when we do come to take the Sun, we'll shift the Earth into a new orbit around Jupiter before we do anything else. Well, we'll turn Jupiter into a little sun for you first, or there'd be no point moving you, would there?"

This is the point I help myself to a whisky, and listen to three minutes of small talk as it pretends to give me time to think about its offer while talking enough to ensure that isn't possible. All the same, inside myself I know I like this deal. As some time, in the impossibly far future, we'll give up the Sun. In return, we 'd keep the Moon now; and, as a bonus prize, they'll relocate the planet for us and throw in a new sun to keep us warm before they take the old one. But I don't want it to know I'm keen.

"Yeah, right," I say. "Like any of that's even possible."

It glances round my office◦– and for a second I see myself through its cold gaze. It's like the Dutch settlers offering the Algonquin beads for the island that will become Manhattan. If I refuse how do I know the dog head won't give me a stripy blanket as a present anyway. And we'll only discover it's a trick and the blanket is infected with smallpox when everyone begins to die.

The dog head turns its cold gaze on me.

"Of course it's possible. The gas giant you call Jupiter is mostly hydrogen anyway. Like the sun," it adds helpfully. "Obviously, it's far too small to achieve stellar ignition for itself and even increasing its density won't really help. So, we're going to have to cheat a little." It tips its head to one side. It could be thinking, but I suspect it's just trying to impress me. "The planet core is tiny, of course. So that's no real help. Our best bet is to seed the centre with tiny black holes. We'll have to tune those carefully. Make them self-replenishing. You know the kind of thing."

"I'll give the White House your message."

"Mr. Carelli, you misunderstand me." It produces its pad again,

and places it on my desk, not with a bang but forcefully enough to make the point that chitchat is at an end. “I don’t need to negotiate with local leaders. I’m already negotiating with you. Your world owes us. Decide now if we get repaid or the debt is rescheduled.”

Mostly debt collectors kick your door off its hinges on their way in, and kick your balls on the way out. This one scares me more, for all my door and privates are intact. I think about our world without a moon and that reworked map. And I think about those bastards in the far future. People I didn’t know and who might not even be people by then. They sold us out. It’s not as if we owe them anything. All the same, I want to say I got us the best deal I could.

It watches in distaste as I take a cigar from my box, bite off the end and spit it at the gash bin, reaching for my desk lighter and taking my time as I put a flame to the end. I blow smoke at the ceiling and watch it swirl as the fan folds it into the air. ‘This sun you’re going to make. It’s going to work? You guarantee that. It’s in the contract?’

It turns the pad towards me. The contract is ten lines. Simple. A real moneylender’s special. What was owed. The new deal. What will be owed. The fact the contract is entered into voluntarily with no threats applied. There is nothing about the new sun actually working, and I make the creature add this before taking the leadless pencil it offers me and signing where it points:

*Tito Cravelli*
*Larkin Street, San Francisco*
*1951*

## *DOCUMENT 2*

To Deputy Director
From Chief: DOI

Top Secret

POTUS asks us to confirm the Cravelli issue has been dealt with. For my own satisfaction, please confirm an EZ 21 was instigated and not an EZ 19 or below. I will let you have my decision on the other matter after I've heard from the bureau.

## *DOCUMENT 3*

For the eyes of the Chief; DOI only
From Deputy Director

Top Secret

I can confirm◦– and have confirmed with the Oval Office◦– that there is no evidence Tito Cavelli existed. No records of any kind are available. No copies or originals of the following:

Birth Certificate
Social Security card or number
Driver's license
Passport
Library card
Medical Insurance card
Medical records
Dental records
School records
Exams taken or certificates issued
Army Service record
Military ID
PI license
Mortgage forms
Rent book for any building
Death certificate

Can I ask if a decision has been reached on the PKD issue?

## *DOCUMENT 4*

From Chief; DOI
To Deputy Director

Top Secret

The FBI's new dept. of psychological affairs has asked us NOT to instigate an EZ 21 or EZ 19 on PKD. The White House has authorised JEH to use him as a test case and I include a copy of their proposed reply (plus their most recent communication to me). As of now, PKD becomes their problem. I understand they will be watching the man for life.

## *Document 5*

From Head; Dept. of Psychological Affairs
To Chief: DOI

Top Secret

We note from your bureau's records that the subject is of nervous disposition, dislikes authority, recently dropped out of the University of California, Berkeley, and currently works in a record store, that he recently married, and has aspirations to be a novelist.

This is, we feel, both an ideal bedrock and fertile ground on which to sow our ideas. In the first instance, we will be writing as follows.

Please note, we suggest our agent claims to work for your Deputy Director, since this will supply a plausible link between your holding letter and this reply [attached].

## *Document 6*

To Philip K. Dick
From Joan Reiss

Dear Mr. Dick,

I've been passed your letter by my section head. He asks me to extend the dept's apologies for the tardiness of this reply to your letter about Mr. Tito Cavelli, your "missing friend". He further asks me to tell you there is no record of a Mr. Cavelli in any government file. The apartment you say Mr. Cravelli owned has been lived in by a Polish refugee for the last five years. There was no Cavelli Detective Agency at the address you gave. More to the point, the Bureau of Investigative Services in Sacramento had no record of issuing a Mr. Cavelli with a PI license. As you might know, the office block in which you say this office existed was recently demolished but we are certain of our facts.

Yours truly,
Joan Reiss

*P.S. I probably shouldn't say this◦– in fact, I'm supposed to be curt with you for wasting the bureau's time◦– but I loved the short story you sent us and just want to say it's as good as anything I've read in a magazine. You should be a writer. As we're both fans of science fiction, I wondered if you'd like to meet? We could always have a drink after work. Do let me know if you like the idea.*

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*They couldn't do a thing to stop me buying it. So I did. And I'm having my fun.*

———

*A Roman dupondius, a brass coin used in the Roman Empire and Republic. The reverse (shown) depicts a moon and seven stars. The face shows Faustina the Younger, wife of Marcus Aurelius. (After 176 AD)*

# MAGNUS LUCRETIUS
## MARK CHARAN NEWTON

People call me Felix, or sometimes Felix the Athenian. Though, I have little memory of Athens, or even Earth for that matter. I was manufactured, or so it has been explained to me, in the workshops of Athens during the two-hundred-year period where Greece had returned to ancient and more primitive city-states. During those ongoing conflicts, I was fortunate enough to be removed from the violence. I was fortunate enough to become a slave.

Felix means lucky, you see.

Since then I served as a slave on three planets and four moons, and under two cruel masters, before being bought up for my writing skills◦– a forgotten craft◦– by Magnus Lucretius.

Magnus acquired me at a slave auction almost one year ago to the day. His purchase came eagerly after he saw the Athenian-branding on my right arm. It was, he told me later, a sure sign of quality craftsmanship, the likes of which he had rarely seen. It is common knowledge that Greek slaves had forever been the preferred choice of a discerning master.

I was the only slave of quality available that day, so I could not truly compare myself. My only flaw, according to the dealer, was with my eye lenses, which had trouble focusing on occasion, but I believed Magnus when he said I was of exceptional craftsmanship. The others with whom I shared the platform suffered from occasionally problematic hydraulics, which would make pouring wine difficult, let alone writing. They would clearly be sub-par slaves and as a consequence fetched a very cheap price.

Magnus was kind to me. He rewrote my systems so that my memories of the war were deleted, and installed file after file of old civilizations and long-forgotten tongues. I have retained my core model files◦– a basic familiarity with, and acceptance of, emotions, to enable us slaves to understand and tolerate the nuances of our human masters, who rarely follow logic.

Because of the fashion in which Magnus reworked my circuitry, I feel have always struggled to recall old events. Luckily the flaw seems confined only to moments in my own history rather than the ability to recall facts. Sometimes I cannot tell if this is a curse or a blessing. Magnus claims, however, that it can be best to forget the past, so I am content.

There were four other slaves in Magnus' villa, but they were retired upon my arrival. There are human servants that work away in

the gardens or tend to the horses, but I conduct all his more sophisticated business. Magnus likes to keep me close◦– he tells me he does not trust humans.

But enough about me.

Because this story is not about me at all. It is about Magnus Lucretius, a great man, though perhaps I am programmed to say that.

Magnus Lucretius was the finest mind of his generation. He was a planetcrafter, wealthy to the tune of seventeen trillion pounds. “Planetcrafter” is a deceptive name because he also terraformed planetoids and planetismals to make them environmentally similar to Earth.

The moral questions of engineering an alien landscape I will leave aside.

Magnus Lucretius, in his lifetime, re-housed three billion people◦– a fraction of those still on Earth admittedly◦– but his work relieved local population pressures to a great extent and saved many lives from the conflicts that beset our age. His company, Basilica Holdings, currently conducts development works on four planets and seventeen moons in three systems, two of which do not rely upon a dome.

Perhaps it was his appreciation of engineering that led Magnus, at an early age, to form a love of ancient Earth cultures. Or perhaps it was the other way around. I cannot know.

“It’s damn remarkable, Felix,” he once said, as we reclined in his blue gardens during my first sunset on Europa, “how three thousand years ago people could build structures on a scale that wouldn’t be seen again for millennia. They built aqueducts that stretched for thousands of miles, all to allow people to live in the deserts! If that ain’t terraforming, I don’t know what is. People who harp on about what *I* do need to learn a thing or two about the past. Now those were people who knew how to do things.”

Forgive his use of language, but Magnus was a passionate man and did not like those who questioned the art of planetcraft. And note how I, too, was allowed to recline alongside him◦– such brazen intimacy was rare for a slave and is some indication on how he would treat me as a friend and confidant rather than as someone he owned.

Perhaps because I know little of my own past, I felt an urge to encourage him to talk of his history and his dreams. I believe he liked such conversations, that they took his mind off the stresses of daily business.

“Felix,” he said that same sunset, “I’ve read them all. Studied everything from Romulus to Justinian. Digested the works of Al-Kindi and of those who passed through the Platonic Academy. Herodotus

and Livy. The lot. Y'know what?"

"No, dominus."

"Knowledge hasn't moved on. Sure we've *refined* things, but we're all pretty much stuck in the past."

During the galactice-wide depresion, a good few years before he purchased me, he bought Europa at a knockdown price. It was there that he was able to combine both of his loves, planetcraft and of the ancient world.

"It's a worthless rock," he said. "I told my accountants that and they couldn't do a thing to stop me buying it. So I did. And I'm having my fun with it."

And I was lucky enough to witness the latter stages of his "fun". Though the moon had been promptly domed, the skin was created so finely that one could not perceive being inside a bubble.

His project◦– his driving passion◦– was to transform this modern moon into an ancient Earth world. He recreated ancient battles with cheap droids and spectacular visual effects. The cities of the past were born again with precisely the same layouts and architecture. Laws were adjusted to reflect the Law of the Twelve Tables, echoing the ancient Roman Republic. There were brothels and baths, games and Gauls, anything one could wish for.

Starships began to stop by Europa on their way elsewhere. Passengers, jaded from interstellar travel and homesickness, were delighted to find on Europa something to stimulate both the intellect and libido. It was a moon where men and women could unwind. They could spend a carefree cycle watching epic battles, visiting the brothels or simply sitting in marvellous ornamental gardens amid the statues and the fountains. Because Magnus was not looking to turn a profit, and because he had no need of the weatlh, there was no modern, corporate advertising to ruin the effect, as could be found on other moons.

Magnus did rename Europa, however. He called the rock Orbis Romanus.

In the later stages of the project, he reined in the excesses of wealthy travellers and burnt-out workers, and began to transform his project into a more family-friendly tourist destination. Scholars◦– those who had not been invited initially to help with the recreations◦– visited from Earth, bringing with them their students and their partners (who were sometimes both) for a weekend away. Magnus entertained those scholars and gleaned information from them. They became his advisors; they helped him fine-tune Orbis Romanus.

Since the galaxy's economy had recovered, what was once a worthless rock happened now to be a habitable, fully terraformed moon situated on burgeoning trade routes. It was one of the most

valuable properties in the solar system.

Despite his ability to shape worlds, I believe Magnus Lucretious found himself dissatisfied on Orbis Romanus. He was Mark Antony without his Cleopatra.

Moreover, it came quite apparent that there was a new direction to his historical recreations.

Magnus orchestrated certain battles, ones from between the second and third century AD. The Roman-Parthian War, the Dacian Wars. Poetry was read out, and plays performed on stage, all of which had originally been written in that same era. And if the text could not be found, it was written by his pet academics to mimic the style of the era.

Citizens and tourists alike were encouraged to wear the dress style of that particular time. Buildings were reworked in that same fashion. The whole of Orbis Romanus' most developed sector became a vast city plucked straight out of that same era. Even the walls of our mansion were covered in fourth style Roman frescos◦– bright and bold colours detailing classical scenes, all of which were set within frames painted to look like columns.

I came to my own conclusions about his actions, and finally determined to ask him. As Magnus was sprawling in bed one evening, I served him his food, and put my thoughts to him.

He turned to look at me from his pillow and it was only then I noticed yet another woman in the bed next to him, almost hidden beneath the sheets.

"Ah, my apologies, dominus," I said, backing away.

But what I'd said to him seemed to have touched him in some way.

He sighed. "No you're right. I can't hide anything from you, Felix. That's the Athenian quality, right there. Give me a moment to cover up my arse and we'll talk."

We walked through the gardens listening to a lyre player. Directly above us a ship with Saturnian insignia fragmented into being, a good fourteen miles from the nearest skyport. Normally Magnus would lose his temper at such poor use of mathematics, but not today. He merely smiled at the error and continued through the gardens as the ship's engines flamed and burned the sky, turning the vessel in a slow arc to the north. There came a sudden peace after it had left, and the purpling sky settled calmly into its previous state. The lyre player continued. The faint contrails left from other, slower ships could be seen extending through to the horizon.

"Her name was Cornelia," Magus breathed.

“The woman in bed, dominus?”

“No. Gods, no. That was just one of the actresses from the theatre. No, Cornelia… she was, is, the reason for all of this. You know as well as I do how little money this place makes.”

“I believe it has yielded a four billion pound loss thus far, dominus.” There had been opportunities for it to make more revenue◦– anyone could see that◦– but here, for just this property, Magnus seemed content that the project be about something else, something other than the balance sheet.

Waving away my reminder, he paused and smiled. “I keep thinking about her, when we talk of the old days. You helped me do that, our little conversations now and then, when we revisit the past◦– well, when I speak of the old days.”

“I merely stirred the thoughts, dominus.”

“Well, that may be. But the fountains, the courtyards, the recreations of the battles, the simulations of culture, the replications and the museum pieces… They’re all because of her.”

“She admired these things?”

“Cornelia used to love them, back on Earth. We were young, but she adored that era◦– not the fashionable end of the Republic days, but later, y’know? The later emperors, Nerva. Hadrian and even that guy he was fucking, Antinous. Cornelia was besotted by the wisdom of Marcus Aurelius◦– bit of a cliché looking back, but still.”

“Do you think she has heard of Orbis Romanus?”

“Given the amount of advertising I’ve spent on Earth in the past year, I would be impressed if she hadn’t. Every time she read an article on her tab she’d see a personalized ad from me, expanding upon the delights of this place. ‘Relive life under the Five Good Emperors, Cornelia’, he quoted, ‘accommodation included’. ‘Do you have the nerve for Nerva?’.”

He and Cornelia had been childhood sweethearts. She had been a vatted child, grown for an older, very wealthy childless couple. Magnus had come from a poor family. But his brains and his talent marked him for a brilliant career and he had won scholarships to the same academy as Cornelia. They met for the first time, so he said, whilst reaching for the same copy of Marcus Aurelius’ *Meditations* in the school library. They had an intense romance in their final year. He had even saved up part of his scholarship money to purchase her a fountain pen constructed from genuine melted Roman denarii. She wept after she had unwrapped it, and later, in the dark, they made love in the library, just beneath the Ovids

He wanted to marry her but, because of Magnus’ poor background and family status, Cornelia’s father would not let them. Magnus made desperate overtures, of course, but his persistence

annoyed her father and eventually he was forbidden from ever seeing her again. Under the portico of her family mansion he said farewell to her one last time, quietly vowing that some day he would earn enough money to please her father.

Later, he learned that she had married a banker.

"So you see, I want her back, Felix. I've managed to track her down◦– easy enough to do when you pay the right people. She's divorced now, as it turns out. The time is ripe."

"I have heard talk among humans of the 'one that got away'. Is this just such an example?"

A wry smile upon his face, emotions that, despite my programming, I could not fathom. "Something like that."

"Why now?" I asked.

"I have everything I could possibly want. I'm still not happy."

"Perhaps, if it is happiness you seek, then you will forever be disappointed."

"You've not been programmed a Stoic, have you?"

I inclined my head. "Not unless you requested. All I can say then is that you are very persistent, dominus."

"That's why I've got where I have today, Felix." He seemed to regret his words immediately but, instead of offering an apology, he merely slid the garden wall up and stormed off into the kitchen. The lyre player stuttered and blacked out, and I made a note to recharge it overnight. As a matter of fact, I felt as if I needed to recharge myself.

It was not long, a mere thirty days until after that conversation, when we heard from one of the human operators at the skyport that Cornelia was on her way to Orbis Romanus.

The messages came through the mansion information system, relayed in every room, streaming down the windowscreens like green neon rain.

*Her ship will materialise 15 miles away within 50 minutes.*

*Could someone please pick her up from the skyport at Hadrian's Island?*

Rarely have I seen such urgency from Magnus. Following his initial excitement he managed to control himself and got dressed. Then he spent some time rehearsing lines, while he paced back and forth in the atrium, waiting for me to bring the horses around the front. He preferred tradition and insisted on horses to greet her.

Because we needed to move with urgency, I brought the horses into the atrium and moved them over what would normally have been the impluvium, a slightly sunken rectangle in the centre of the room. We couldn't make the skies rain on this moon, despite Magnus' best efforts, so such drains were useless. Magnus merely used the

impluvium to disguise our fastmat. He thumbed in the precise co-ordinates of the skyport on Hadrian's Island, booked us in with the receivers, and we mounted our horses.

Moments later, reality flickered, and a new and expensive kind of physics opened up space like a network of aqueducts.

We slipped into a new locale.

We rode our horses out of a large metal cylinder at Hadrian Island Skyport, a structure built in the classical style, but from toughened glass. The gathered throng◦– some in period dress, others in contemporary clothing as was the curious mix of citizens on Orbis Romanus◦– gawped as we rode our splendid mares through the chrome-lined port building, the vast windows looking out across the partial sunset.

We waited, of course.

Magnus grew impatient.

Then Cornelia's ship arrived, the screen above flickered with the image of the passengers disembarking.

I knew it must be she from Magnus' response◦– a woman with long, chestnut hair that seemed to bounce lightly with every step. In fact, she took each step cautiously, which surprised me, as her figure suggested she may have possessed a certain level of athletic skill. Her light blue dress clung to her frame, and a delicately laced white shawl covered her shoulders. She was not alone: a tall man walked beside her, dressed smartly in a black shirt, trousers and grey waistcoat◦– a style that contrasted harshly with her soft fashion. He possessed a broad and weathered face, though his expression was mild.

Magnus' countenance grew sterner upon seeing him, but he need not have worried: this other man, we soon learned, was no suitor, but her protector. Mind you, one could tell that by the way he moved around her, never touching her.

Moments later the two of them were standing before us.

"Magnus," she exhaled.

"Cornelia."

As I may have discussed before, I am not one for understanding emotions, but even I could recognise that something passed between them with that exchange. Perhaps time unbuckled itself in their eyes, the years falling apart… but who can say?

I merely helped bring her luggage from the conveyor belt.

Later that night, the bodyguard and I watched Magnus make love to Cornelia.

The bodyguard ate a bowl of olives. He seemed a pleasant if quiet individual, not that the opportunity for conversation really presented itself.

The next few days, Magnus took Cornelia and her bodyguard around Orbis Romanus. He showed her his moon and what life was like here.

I rarely accompanied them, as I was an interloper. I prepared their evening meals and enjoyed the opportunity to refine my culinary skills in peace.

Repeatedly, the bodyguard and myself would sit through their evening lovemaking, for he would not leave her side and I had nowhere else to go.

"It's really for me?" Cornelia's eyes glittered in the sunlight.

"Of course," Magnus replied. "Remember those days we spent in the library? You loved that era◦– you were besotted with it, and so was I◦– and I remembered those days. I remember your affection for it. So I built it all. Just for you."

"But… really, just for me?"

Magnus gave a nod.

"What's the catch?" she gave an awkward laugh.

"None. Just stay here with me."

"You know," she continued, "it was really only my father who stopped us. He said you were–"

"'An insignificant nobody who would never amount to anything.' Well, he's wrong. Consider this a display of my wealth, if you like. Something to show your father I'm a success. And only occasionally a layabout…"

"So, you honestly mean to give it to me?"

A pause. "Why not?"

"You're not serious!" Her excited squeal nearly short-circuited my sensors. "It it valuable?"

"Sure," Magnus replied. "Everyone wants a piece of it. So take it. This moon is yours◦– I created it for you◦– just as long as you really want to stay here with me."

"Do I!"

"Show your father, too," Magnus muttered with a grin. "Honestly, tell him I gave it to you."

"Don't joke, Magnus."

"I'm not◦– I'll sign it over to you right now. Hang on a few moments. Felix!"

"Dominus?"

"Oh, Magnus…"

Magnus asked me to draw up the contracts immediately. I hastily sketched them out, a basic transfer of ownership, in only a few minutes. Magnus didn't even seem to care about the precision◦– he wanted to seal the moment, to act on a whim. I felt certain a proposal

of marriage would follow.

Magnus and Cornelia stood before an open window, their arms around each other. I laid the contracts transferring ownership of Orbis Romanus on a table before them. Magnus signed his name and stepped back, beaming.

Cornelia beckoned over her bodyguard with a briefcase. “I’ll used my cherished pen,” she whispered to Magnus, “the gift you once gave me.”

“You kept it?” He smiled as if recalling those days. In the momentary silence, birdsong could be heard from the gardens.

“Of course I did.” Cornelia reached into the case, pulled out a gun◦– and fired.

The back of Magnus’ head erupted, and blood and bone spat out.

He collapsed on the floor.

I do not experience anything near to shock, as humans do. But I did love Magnus Lucretious in my way. And I struggled to comprehend the logic of what had happened.

Cornelia signed the contract with Magnus’ own pen and placed the papers in the briefcase. The bodyguard placed his arms around her and whispered, “It was disgusting, watching him make love to you.”

“It was worse having him do it, darling.” They kissed. “I’m so glad it’s over now.”

“What next?” he asked.

“For the moon or for us?”

“The moon,” he replied.

“Call in the company right away◦– send them a scan of the contracts. We get rid of the Roman crap, for a start. We need hotels◦– more hotels, and a bigger spaceport. This place can be the biggest stop-off point in the galaxy. Pull down the temples, sack the centurions, and let’s make some money. We should probably get rid of the body as well…”

I stared at Cornelia.

“Don’t look at me like that, Felix. I just did you a favour. You’re free now.”

“I… do not know what you mean.”

“You’ve earned your freedom.”

“How so?”

“Tell him, Claude.”

The bodyguard turned to me. “You may have observed that Cornelia was not, in fact, in love with your master.”

“Oh, he was a beast,” Cornelia added. “Bombarding me with subliminal and overt advertising techniques, attempting to navigate the system defenses in my head. In realspace he sent salesmen round hawking his wares◦– this moon, this resort. For years!”

“Quite,” Claude concluded. “You were planted. Felix, you were our eyes and ears◦– literally. You may feel that your eye-lenses don’t quite work correctly, but that’s because we have cameras installed alongside them. We have been watching everything through your eyes. Magnus bought this moon a long time ago, when it was worthless, but he could certainly spot an investment. Pretty soon it became clear this place was worth a fortune. And he was still besotted with Cornelia. Still intent on wooing her back. When we learned of his search for a slave, we snuck you into the auction.”

“Obsessed with tradition,” she added. “Beastly man.”

“We just waited for the right time to respond,” Claude continued. “And when the time was right, we planted you. We knew he couldn’t resist your Athenian craftsmanship. Then we used you to work out the best time to come◦– once the terraforming was complete, and the market had developed to its maximum potential. Now, we own some of the most valuable real estate in the solar system◦– handed to us on a plate.”

“Easy for you to say,” Cornelia added. “Oh how I need a bath. You can draw one for me, Felix.”

“So you did this,” Claude said to me, “and we thank you for it. You were certainly lucky for *us*.“

“I guess, despite his fancy education,” Cornelia concluded, “despite all this crazy Roman nonsense, Magnus never bothered to learn a simple lesson like *caveat emptor*.”

-

***We all feel the melancholy. The taller the trees grow, the more the melancholy sinks into us.***

———

***A pencil study of the branch of a tree, from an album of drawing and watercolours formerly owned, and possibly made, by the renowned antiquarian and churchman the Rev. Thomas Streatfield (1777–1848). (c1820)***

# AIR, WATER AND THE GROVE
## KAARON WARREN

We've got food for seven days. Water for 12. Because sometimes the Saturnalia doesn't end when it should. It's hard for people to settle, after. Mid slash, mid fuck, mid theft. Do you just stop, then carry on with your suburban life? Leave things half done? Most people prefer to see it through. Take the extra hour or two. Chase away the doldrums for a bit longer.

We've stocked up on hydrogen peroxide and oxalic acid. There are going to be a lot of blood stains and they'll be coming in after with their bundles of clothes, "Oh, I had an accident," is a good one. Or "I was helping an injured person", is another, not one of them wanting to admit what they've been a part of.

Seven days where nobody works. Nothing is open. There are no arrests, although crime occurs, it does, I've had friends murdered. I've lost worldly possessions. But you're not going to be arrested, not during Saturnalia.

We'll be called out to deal with carpets and mattresses. We've stocked up on pepsin powder for those, and we'll charge for travel. It's a good business, stain removal. Especially after Saturnalia. I hate having to go into people's homes, though. Other homes are dirty and they reek and I don't feel safe there. You never know what people will do, what they consider normal, in their own homes. I've had clients stand naked watching me. I've had food offered that I wouldn't feed a dog or a goat. I always need a shower after being in a stranger's home.

Though people are mostly dull these days. They care less than they used to. They're tired and old. I know I feel older.

We've stocked up on sodium percarbonate. That's good for chocolate stains and there will be plenty of those. People think they are original, as if they're the only ones to cover themselves in the stuff. I say, "Seen it before. Seen it plenty."

I'm lining up my stocks, counting the bottles, when my son says, "I'm not staying home this year." He's 21 and perhaps I can't keep him safe anymore. "This year, I'm going to be a part of it. I'll help you with the clothes when I get back."

"You should stay at home." I try not to cry. I don't want to make him feel guilty. That is never a good reason to do anything. "We can watch it on TV."

"I want to be the one on TV. Can't I be happy, for a little while?"

"Don't go," I say. "I'll make you a steak dinner tonight. And tomorrow night a chicken dinner. I'll cook you your favourite food

every night for a month." He nods, and he eats two steak dinners, but when I check his room at midnight he is gone.

He's slow, though, and loud, so I hear him stumbling to the front door, kicking the umbrella stand as he does every single time, and knocking the Saturn Tree we keep high, under a light, as he does every time as well.

What can I do? Tie him down? Join him to commit our own saturnalian acts, in our own home?

Maybe it is time to let him free.

He fumbles with the door locks, as he always does, forgetting which turns which way, and how many turns, and whether or not he's already turned one or the other. He looks almost like a shadow in the dark, not a real person at all.

I don't say, "This is why you have to stay home," because it's my fault he's that way.

I'm the one who did it to him.

It's been 23 years since the return of the *Tarvos*. Can you call it a return, if the ship never made it back whole? I was only four when it set out amidst a wild fanfare, because they like to make a fuss, don't they? The rocket scientists. As if they are the ones who'll save us all. They're still like it, years on. Discovering new planets. "Earth-like'"ones, and you find out it's all bullshit. You know? What they mean is Earth ten million years ago when the only things here were crawly little worms or something.

Speaking of which, there will be dirt to get out. Some of them get buried, up their necks. They showed it on the TV last year. Being used as a toilet, one of them. If those clothes had come in, I would have burnt them and paid the difference.

I was nine by the time the *Tarvos* reached Saturn. Those pictures of the swirling north pole made me dizzy, that's mostly what I remember.

Most people were more interested in watching it suck in samples of the icy particles orbiting the planet.

We've stocked up on bottles of filtered water. The drycleaners' greatest trick is that air and water are the best cleaners, at the end of the day. We can charge what we like, but our basics costs can be minimal.

I was 14 when the *Tarvos* returned; I remember that clearly. All the adults so excited by the return of the thing, the rest of us not caring all that much. Happy that they were distracted so they'd leave us alone, and we could party. Skip school without anyone noticing.

But we were all out there, watching the sky for a glimpse, when it blew up.

They calculated wrong, or something. Didn't think the ice would be as heavy as it was. It's all about the micro millimetres, isn't it? And they get it wrong.

We've stocked up on methylated spirits, and we've got plenty of clean absorbent paper. Candle wax stains are always a problem. People get carried away, and there's spillage. There are fires, too, but that's not up to us. Other people manage that. Or don't.

They love the fireworks, don't they? And the fires, they don't care about safety or property. They'll set things on fire purposely, to see them burn. In the shade of the Saturn Trees, all of it seems to make sense. Is it because of the *Tarvos*? How it burned on entry, exploded in the night sky like fireworks?

Six crew onboard (and the ones with children mattered more, according to the media), all of them now with streets named after them. Suburbs.

It felt like rain but the drops were solid and stayed heavy on your skin if you left it. I wiped all the drops off but some clung to my hair, and my ears, and in my eyebrows.

People dragged their children inside, because there were parts raining down as well. There were deaths, though not in our neighbourhood. I heard one girl my age was pierced through the heart by a shard of metal.

Workers in Bangkok offices, Singapore noodle houses, sheep farms. Miners dredging gold and oil and zinc. All of them went out and stood in it. Most of them felt it.

The ice particles, melted. The pieces of ship. The other pieces. Those poor astronauts.

The astrologers told us they predicted it. That this was bound to happen, it was fate. Saturn was in the eighth house and that meant horrible death.

"For who?" people like my dad asked. "What, all of us?"

"Prepare for the grave," the astrologers said.

Wasn't long before many of us wished we'd been one of those early ones. Knocked down flat by debris. Gone in a flash.

We all feel the melancholy. The taller the trees grow, the more the melancholy sinks into us.

We're all whirled up into Saturn's dark heart now.

The ice, the ship, the others. All of this rained upon us.

The ancient alchemists, were partly right; for them, Saturn designated lead. They believed the planet was made of lead. And these water droplets, when they were tested?

Traces of lead. Surprised them all, the so-called smart ones. They

hadn't thought that.

Once the particles touched ground, they crystallised. It was beautiful to watch; we all thought so. Especially once they started to grow.

In the forests. In backyards. In bowls set as centrepieces. On roofs and walls, on the heads of statues, in footpath-cracks and sewers.

So many crystal trees.

Each of them growing up, up, towards Saturn.

My father worried that the magnetism would shift the earth off its axis, but he didn't finish school. I told him lead isn't magnetic.

It looks like silver, he said. He was one of many who broke pieces off, grew more trees.

Share the wealth, he said. The beautiful crystals shouldn't only be for the rich, he said, and they weren't.

The richest people in the world used to be the ones who owned the land that provided the metal. People like me didn't get a look in. But now we all have own trees; they grow anywhere.

Air quality testing showed that the Saturn Trees were not only beautiful, but healthful; they attracted lead particles, literally sucking lead out of the atmosphere.

Places whose high lead content led to birth defects and early death grew more and more of them. We all did. All you needed was a small piece. Every home soon filled with the air-purifying trees. Every school. Every hospital.

Some trees grew tall as houses.

Some trees grew fat.

The trees were so beautiful you wanted to watch them all the time, and people did.

It seemed the trees absorbed light as well as lead because the world seemed duller, anywhere the trees grew.

They bore no fruit.

Not at first.

Saturn is time. Saturn is the Bringer of Age. Saturn is the bringer of melancholy and dismay. We didn't notice the effect; the tiredness, the melancholy. The graveness.

We didn't notice.

Not at first.

I scoop up the shards my son's clumsiness knocked off and drop them onto the upper branches of our Saturn Tree. If I had the patience I could sit and watch them being absorbed. It's hypnotic. It would distract me from thinking of him, out there amongst it. There are no good people this week. No one who will look after him, bring him home to me.

I wasn't allowed out during the first Saturnalia. I stayed at home, listened to the dogs howl. By the time I was 16, though, they were mandatory and I was out amongst it. Blind drunk most of the time. Those crystals! And no regret the next day because who remembered anything? It's why we don't know who his dad is. Could be one of many. I don't blame any of them. I don't feel used by any of them. It's how it was, it how it still is.

I don't like having methylated spirits in the house. The alcohol smell of it takes me back. I've not touched a drink since the day he was born and we knew. We could see what he was. So many of them like that; damaged by the booze we'd drunk during Saturnalia and beyond. We didn't know. We didn't think. All we knew was that the crystals, dissolved in alcohol, provided an almost instant high and somehow negated the hangovers. Sparkle, we called it. They still call it. I spent a month in a state of numb euphoria; I didn't care when Saturnalia started or finished.

He came out smelling of booze. I swear it. Not that sweet baby smell they are supposed to have. And his tiny eyes, his flattened cheekbones.

"We're seeing a lot of these," they told me gravely at the time, as if that made it better. Holding that tiny baby, his tiny head, and they say no one was to blame. Because no one wanted the Saturnalias stopped; they still don't.

My son; what worries me most is what happens when I die. But I probably won't die before him. He's clumsy, so accident prone. His liver is shit and he's impulsive. I can't see him lasting too long. If he survives this Saturnalia, out there with the lunatics (not lunatics though. We're not talking about the moon. The Saturnine) then perhaps he'll be safe for another year.

He should be safe, and return to me and our quiet, clean life. He can help me move some heavy furniture around. It's a good time for change, after Saturnalia. Good time to pretend things are different.

If he comes home in time he can eat with me, but I don't mind eating alone. It's a quick clean up. No spillage.

We are in the Saturnian days, my father used to say. He liked to quote from things he didn't understand. "The days of dullness, when everything is venal," he'd say, nodding as if we should know what he was talking about.

I feel dull. We all feel dull, but they numb that with alcohol. Drugs. Sparkle. With sex and dancing, throwing themselves to the ground in a passion they do not feel. These times are when Saturn is unbound. When we are all so grave on the inside if you cut us we'd bleed tears.

My father always did call me fanciful. I used to talk about Saturn,

bound with woollen strips beneath Rome to stop him leaving, unbound only during Saturnalia. I think he is with us now, unbound because we worship him with our dullness, our melancholy.

Satin stains badly and is difficult to clean. I can do it, though, if you give me the time, some cool water and some delicate soap.

I hope my son comes home unbloodied.

I hope he kills no one.

He is back. He leaps and jumps about like a frog in a box; I've never seen him energised before. His clothing is in disarray, stained, his hair is shaved on one side, his face cut, his chin dark, his arms bruised, his legs bleeding. He talks without taking a breather for an hour or more, while I clean his cuts, feed him and give him tall, cold, sugary drinks. I sponge the stains with cool salted water, then rinse a dozen times with clean water. The rest I remove with hydrogen peroxide.

Dark days follow. After the excitement fades and the ordinary returns, the melancholy seems more intense. As if Saturn is angry that the revels have ended, and is exerting his power, laying his lead-weight against us. Some communities leave up the banners and bright ribbons, but they fade with the sun and became sadder than anything. I could wash them in vinegar but that wouldn't be enough.

I try to help my son. I put him to work, because work distracts, and I need him to keep up. We took in more purple stains than usual; he told me they were passing around a grape drink that tasted like medicine but that numbed the entire body. I tried to find this drink, to give him a taste, cheer him up but there were no supplies in town.

He carries a tiny Saturn's Tree with him everywhere, carefully, as if it was a full cup of tea.

Then a customer tells him about the grove.

"The greatest Saturn Trees you'll ever see!" she says. "And you walk in amongst them and can feel your blood racing, your heart so solid and strong, and you smile, and you should hear the laughter in there. Strangers all together as one. It's beautiful."

I think of our own Saturn Tree, how even standing next to it makes my mouth droop, and my eyelids heavy.

"That doesn't sound right," I say. The customer laughs.

"It's not really for people like you." She actually winks at my son, and he winks back, as if he knows what she is talking about.

He leaves with her. I tell her that he needs help and she laughs at me again, as if I am making things up, have invented all the hours I spent cleaning him up, trying to teach him.

He isn't gone long. He comes back quiet, but he seems happier.

"It's so beautiful there. The sky looks bluer than it does here. But

she was wrong, that woman. It is for people like you. It's for everyone. Next time, can you take me?"

"Maybe," I say, the universal, eternally polite parental No.

Ninety-seven customers later, he goes out and doesn't return. I know where he's gone; I only wonder how he travelled. I call him. He says, "Come and see, Mum. You'll love it, you really will. I'll meet you at the entrance."

He sounds so bright I wonder if something has changed within him.

I set some clothes to spin and close the shop.

The streets are quiet with the Saturnalia well over. There is a low hum, a low moaning, I think, but I see that people are humming and I realise it is music.

I drive to Saturn's Grove. The sign is cracked, tired-looking; the "o" lookes like an "a".

From the moment I enter, I am filled with a sense of my own worthlessness. Pointlessness. I am uninteresting. Unlovable. I think the customer was right; this place is not for me.

There are hundreds of metallic trees, growing as tall as redwoods, wide as sequoias. I can barely see the top of them.

I find my son, his arms stretched around the base of one of them.

"Isn't it beautiful?" he says. He's never cared about anything before, beyond food. He reaches his hands up to swing on one shining branch. He winces, pulls away, and I see that his skin has reddened.

At the base of many of the trees are clothes. Perfectly good, most of them.

"What are these?" I say, smiling. I think *He brought me here, to collect the clothes. It is kind of him, bringing me here.*

"People don't want them any more," my son says. So I start to gather them up, to take home and clean. At least washing clothes gives me a kind of purpose. I feel giddy if I look up, so I look mostly at the clothes on the ground.

"We'll be able to get most of these stains out easily," I say. He was right; I do feel delighted now. Excited.

He doesn't answer. I thought he was behind me but no.

He has stripped naked and is already three metres up a tree. I haven't seen him naked since he was 14 and insisted that he could wash himself. "This is the one. This is my tree."

I look up. "It's very high."

With my head tilted back, I can see that many of the trees have do have flowers at the top. Some are bulbous. Some brightly coloured.

"I thought they didn't flower?"

"That's the others. That's each one who's climbed. As the tree

grows, they reach closer to Saturn."

He drags himself up further.

"Don't go any higher," I say. I fall to my knees. I don't want him up there. "I'll make you any meal you like, just name it. And you don't have to clean the clothes if you don't want to. We'll find you something else. And we'll find you someone nice to be with and don't forget Saturnalia, how much you loved it! Only another ten months and there's another!"

But he climbs up. I watch him and want to follow him, but even the feel of the tree under my palm makes me sick. I sit at the base, waiting for him to come back down again. I can hear him crying.

"Son! Come down! You don't need to feel pain!"

"It's not painful," he calls, but his voice is shaky, withered. "I'll be down soon. Wait there."

I have to trust that he will return. I sort the clothes I've collected by material and colour. People watch, asking questions. Distracting me. Until one woman says, "Do you need a hand to get all those things home?"

"I'm waiting for my son. He's climbing up. He'll come down soon."

The woman shakes her head. "Look," she says. She leads me through the trees.

Some have tiny thin trails of blood to the ground, crystallised. "Every last one of them climbed like he did," she says. "Step by step as if there was no other way. This one's my daughter's tree." She stands and puts her hand near a tree that dwarfs many around it. She doesn't touch it.

My son has become one of them.

There are others, lost like me, gazing up and weeping. The woman says to me, "The only certainties in life are air, water and the grave. Saturn's sons, Jupiter, Neptune and Pluto. The only ones he didn't kill. That's all that's real anymore."

"I'm going to get my son down."

I don't want to go up. The thought of it makes me want to cry and never stop.

But my son is up there and I want to bring him down.

Each step is like climbing on sharpened knives. Blood pouring

I don't have the strength. I can't do it.

"He won't come down anyway. There's nothing you can do. Once he's climbed all the way up, it's too late," the woman calls. She tugs at my ankles.

As if to demonstrate, one bright green bead of liquid drips down past my face.

Do I love him enough to die trying to get to him? I climb for

another hour, making no progress, slipping backwards, dragging the skin from my arms and hands, from my cheek. Then I'm stuck. I can't move up and down. Frozen.

"Stretch your fingers. Spread them. Let go. We'll catch you," they call from below, and I do, and they do.

"It's too late. He's so deep now, you'll never get him out, even if you get him down. They climb up there to die; at least it's a choice. No one has come back down again, not alive." My new friend shakes, rolls her shoulders. "I come back every now and then to take a piece of my daughter's tree," she says. "She's happier now her suffering has ended."

"What about us? What about our suffering?"

She lifts her arms. Smiles. The rest of her is shivering; only her lips are still. She reaches into her bag and offers me a small bottle of vodka. It sparkles. I shake my head at her; not that.

I cry then. I've always known I'll lose him, but I didn't know he'd choose to go. I cry, leaning against his tree, until I realise my tears re being drawn in. Absorbed.

I break a piece of his tree off to bury it. It is stained slightly with his fluids.

I make his grave in a tiny, tiny pot next to my other Saturn's Tree. It will grow if I look after it. Feed it. Water it. It may fruit one day, as do the trees in the grove. We watch them grow, the other grievers and I. I say to them, "Whoever said these trees don't flower? There are our children up there, fruiting." Sometimes one drops and shatters, looking like an arum lily, the corpse kind. Surrounded by crystals worth a lot of money, and I wonder if people will use them, if it will come to that, and what they'd call the drink. A friend brings me some Sparkle, and another does too, and once I remember how good it is, and forget all the rest, things are better.

I re-open my shop when I run out of clothes to clean. My job is so instinctive I can do it Sparkled or not.

Air, water, the grave.

And Sparkle.

-

*There is more to life than you or me. I want to be a part of something bigger than either of us.*

———

*A Boxwood diptych dial, consisting of two leaves that fold together when not in use. Chinese characters in red paint read: “Moon plate” and “Combined Sun and Moon dials”. The second leaf features a vertical dial, within which four characters read: “The tiny shadow [i.e. time] is precious”. (c1850)*

# ONLY HUMAN
## LAVIE TIDHAR

There are four Three-times-Three Sisters in the House of Mirth, and five in the House of Heaven and Hell, and two in the House of Shelter. Four plus five plus two Three-by-Threes, and they represent one faction of the city.

You may have heard tales of the city of Polyphemus Port, on Titan, that moon of raging storms. First city on that lunar landscape, second oldest foothold of the Outer System, or so it is said, though who can tell, with the profusion of habitats in those faraway places of the solar system? A dome covers the city, but Polyport spreads underground◦– vertical development they called it, the old architects. And its tunnels reach far into the distance, linking to other settlements, small desolate towns on that wind-swept world, where majestic Saturn rises in the murky skies.

There are two Five-times-Six Sisters in the House of Forgetting, and five Eight-by-Eights in the House of Domicile. We who are a ones, and will one day be zeros, we cannot hope to understand the way of the Sisterhoods of Polyphemus Port, on Titan.

Understanding, as Ogko once said, is forgiveness.

Shereen was a cleaner in the House of Mirth in the day, and in the evening in the House of Domicile. It was a good, steady job. On Polyport all jobs connect to trade, to cargo. A thousand cults across space arise and fall around cargo. In the islands of the solar system cargo achieves mythical overtones, the ebb and flow of commerce across the inner and outer systems, of wild hagiratech from Jettisoned, best-grade hydroponics marijuana and raw materials from the belt, argumentative robots from the Galilean Republics, pop culture from Mars, weapons from Earth, anything and everything. Polyphemus Port services the cluster of habitats that circle Saturn, and links to the Galilean Republics on the four major moons of Jupiter. It links the inner system with the wild outposts of Pluto◦– with Dragon's World on Hydra and Jettisoned on Charon, and the small but persistent human settlements beyond Saturn, in the dark echoey space that lies in between Uranus and Neptune.

People are strange in the Outer System, and the few Others, too, who make their homes there. Some say the Others, those digital intelligences bred long ago by St. Cohen in Earth's first, primitive Breeding Grounds, have relocated en masse to the cold moons of the outer system, installing new Cores away from human habitation, but

whether it is true or not, who can tell? Whatever the truth of all this is, it suffices to say that all jobs on Polyport, directly or indirectly, are linked with the business and worship of cargo, and that some jobs are always in demand.

Shereen apprenticed as a cleaner in the landing port beyond the city, a vast dust-bowl plane where RLVs like busy methane-breathing bees rise and fall from the surface to orbit, there to meet the incoming and outgoing space-going vessels to ferry people and cargo back and forth. She was seconded to Customs Inspections slash Quarantine, scouring ships' holds for unwanted passengers, the rodents and bacteria, fungus and von Neumann machines; from there she moved dome-side, abandoning her public sector job in favour of the private. She cleaned houses both above- and under-ground, until at last she settled on the dual work for the House of Mirth and the House of Domicile, a work associated, after all, with cargo and religion both.

It is said that Dragon, that enigmatic entity living on the moon Hydra, its body composed of millions of discarded battle dolls, had passed through Polyport on its way from Earth. If so, local historical documentation is nonexistent, and anecdotal evidence spurious. Nevertheless, an uncle of Shereen's, a Guild-certified cleaner in his own right, used to tell the tale of Dragon's arrival as though he had known it for truth.

In the story, Dragon's Core, the hub of it, remained in orbit around Titan, carried as it were in a converted asteroid; and it trailed behind it kilometres-long lines of suspended second- and third-hand Vietnamese battle dolls, strung on wires; while Dragon manifested upon the streets of Polyport in a doll body of weathered humanoid form of little distinction. It was then, said Shereen's uncle, that Dragon met the woman who had once been One-times-One, then One-times-Two, and was finally a Three-times-Three; but whose name had once been Haifa al-Sahara.

Did Dragon◦– who split itself across a million bodies◦– suggest to al-Sahara a similar possibility? Ask at the House of Mirth, or at the House of Forgetting, and you shall receive no answer. Yet whether it is felt the question too ridiculous to answer, or if, rather, there is a kernel of truth in it, the silence does not say.

Be that as it may. You can read more about the early history of the Houses in *Sisters of Titan*, by Hassan Sufjan, if you were so inclined or, of course, in Gidali's classic novel, *Three Times Three Is One* (adapted by Phobos Studios into a lavish three-part production starring Sivan Shoshanim).

What's important is that, at the time that Shereen was working at the Houses, trouble had been brewing for some time. And that, one

day, a new novice came into service in the House of Mirth.

Or *is* that important? It was to Shereen, certainly, eventually. It was to the novice, too, whose name was Aliyah. How we assign importance depends on where we ourselves stand in the story. For Shereen, it was a moment of significance, the point in which light breaks through the transparent dome, and Saturn rises. Seeing Aliyah walk into the House of Mirth was like being thirsty, and then being given drink; like having been sick, and suddenly feeling better; and so on and so forth.

Aliyah came into the House of Mirth dressed in the modest *jilaabah* of the Sisters, in the plain black of the Noviates. Underneath it, Shereen knew, Aliyah would bear the scars and grafts of Noviatehood; while inside the filaments would be growing, burrowing under the skin and showing as fine blue lines under direct white light. Shereen was cleaning unobtrusively in the background. Robots could do some of the work, sure, but robots, or Others, were not welcome in the Houses of the Sisters. And humans were so much more… human. The Sisterhoods rejected the Way of Robot, and the ideal of Translation. They were, for whatever it's worth, still human.

In a manner of speaking.

Underneath her head scarf, Shereen knew, Aliyah's head would be shaven, misshaped by augmentation. Only her eyes could be seen, a startling, deep scarlet like the colour of the sky above the port. In her eyes were the storms of Titan. Perhaps it was then that Shereen fell in love. Or perhaps love is merely the illusion of body chemistry and brain software with deep-embedded evolutionary instincts. Though that hardly sounds very romantic.

The poet-traveller Bashō, who had visited Titan, once wrote:

*Laf hemi wan samting*
*I no semak*
*Ol narafala samting*

Which translates, from the Asteroid Pidgin, as: Love is one thing / that is not like / any other thing, and which is as unhelpful as Bash ever got.

Their eyes met across a crowded room…

Though it was not crowded, and that first time Aliyah barely saw Shereen, only perhaps as a reflection in a shiny surface. It is easy to unsee cleaners, they walk like shadows, they are unobtrusive by training.

Shereen, then, watched as Aliyah arrived; and as she was ushered in to the inner sanctum by the Three-times-Three. And she brooded.

It was◦– as has been mentioned◦– a time of tensions in Polyphemus Port. The reasons are arcane and somewhat boring. It could be argued that Three-times-Three is the most stable form of Sisterhood, a linked network, nine minds all linked and working in parallel on a perfect grid.

But there were, at the time, as we've said, other forms. The asymmetrical Five-times-Sixes of the House of Forgetting, and the Eight-times-Eights of the House of Domicile◦– the largest Sisterhood on Titan. And these joined forces◦– politically speaking◦– against the older and more established Three-times-Three Sisters of Mirth, Shelter and the House of Heaven and Hell.

There is a lot of politics in the solar system. There is the corporate rule of most of the asteroid belt; the mellow capitalism of such old-established settlements like Tong Yun or Lunar Port; the socialism of the Martian Kibbutzim, or the despotic rule of dozens of obscure space habitats. There is the mind-meld democracy of the Zion asteroid (which had since departed the solar system to destinations unknown), the libertarian anarchy of Jettisoned, the militarism that had led to the Jovian Wars in the Galilean Republics for a time, and so on, and so forth.

Titan was, nominally, one of those places with no clear system in place beyond the benign rule of machines; which is to say, autonomous systems kept the fragile balance of human lives functioning on an essentially hostile world, and the humans, robots, Others, Martian Re-Born, tentacle junkies, followers of Ogko and so on simply got on with whatever it was they were doing, most of which◦– as we've said◦– revolved around cargo.

The rise of the Sisterhoods, however, changed things. They were not exactly a religious order, though their business was the transport of cargo and thus assumed religious nature. They were a mixture of business and religion, then, human mind-melds functioning like digital intelligences, their component parts replaced as they grew old and died, but the basic mind kept on, gaining new perspectives and notions with each new cell of a Three-times-Three or a Five-Times-Six. In a world with few genuine Others, and only the occasional robot pilgrim on its way to or from the Robot Vatican on Mars, the Sisterhoods were near unique, and their power had risen as they assumed onto themselves new followers.

Against this background of rising tension, Shereen and Aliyah had fallen in love.

"Hello."

"Oh… hello."

"I am Shereen. I clean here."

“My name is Aliyah. I’m a Novice.”

“I can tell.”

“Can you? I guess you can, at that.”

“I saw you here, before.”

“Yes, I saw you, too. I think.”

“Did you?”

“No, I suppose…”

“Your eyes are very beautiful.”

“Thank you. I’m sorry, I have the strangest feeling, as if we’d met before. There are things moving behind my eyes, at least it feels that way.”

“How long do you have before Initiation?”

“Twelve orbits to an Earth year of grafts and surgery.”

“That’s terrible.”

“It’s worth it. Or so they say. I would be a part of the Sisterhood. It’s a way of never really dying, isn’t it. Think about it. Haifa al-Sahara is still alive, in some form, in the Three-times-Three, and soon I will be a part of her, and she a part of me.”

“Who’s to say if it is right not to die? Isn’t our humanity defined by our death?”

“But which humanity? I’m sorry, I–”

“You look flushed. Here, let me help you–”

“It is probably the medication. Your hand feels so hot.”

“Your brow is icy cold. Here, let me loosen your scarf.”

“Thank you, I–”

“I feel strange, sitting like this with you.”

“No one can see us, can they?”

“We are alone.”

“Hold me. Shereen? Shereen.”

“Aliyah. Aliyah?”

“Yes. Yes.”

“Yes.”

Things escalated when the Guild of Porters◦– swearing nominal allegiance to the House of Domicile◦– declared a general strike.

Without porters there can be no movement of cargo. Without cargo, Polyport and its adjacent settlements suffered. The House of Mirth sent its own people to replace the Porters, third-hand RLVs rising and falling from orbit. The strike turned violent. One of the RLVs crashed and burned in the violent atmosphere of the moon, and the scabs retired without grace. When at last the Porters went back to work the Cleaners went on strike. Beyond Polyport the nearest large settlement was El Quseir, on the other side of the moon. Now it threatened to rise in prominence as the Houses fought.

Human cells of each Sisterhood met to confer, and try to resolve the impasse. Shereen, cleaning, watched the meeting unobtrusively in the House of Domicile. The two women were almost sister-like◦– both short, dark haired, dark skinned, with violet eyes. Bare-headed, they were an amalgamation of protrusions and augs, their dark hair a mere fuzz on their shaven skulls. They spoke little in language, communicating somewhat by gestures but mostly in the high-bandwidth *toktok* of the Sisterhoods, which was both like and unlike the protocols of Others, the *Toktok blong Narawan*.

Their conversation in audio form, then, did not make much sense –

"Cannot?"

"Times three, times four. Mirth–" a raised finger. A shake of the head. "Port."

"Cargo. Flow."

"Ours."

"All."

"None–" a face turned sideways, light falling on augs. "Impasse?"

"Repeat."

Silence, two sets of violet eyes staring into each other. Shereen wiping the surface of a desk. "Loop."

"Loop."

"Impasse."

"Yes."

And depart, disengaging swiftly, the one Sister leaving the room, the House, the other remaining as its others joined her, a Quarter, Four-times-One of an Eight-times-Eight.

The rest of their conversation Shereen could not hear, they did not converse, they thought in parallel. Later, when she left…

Shereen lived on Level Two of Polyphemus Port. An old neighbourhood, dug-in about a century after first settlement. There were hydroponics gardens on that level, the lush vegetation that was everywhere in the humid, Earth-tropical weather of Polyport. Vines grew over the windows of Shereen's bedroom. She lay in bed with Aliyah. It was late. Aliyah's body was black and blue, bruised from her latest surgery. A One-times-Nine of one of the Sisters of the House of Mirth was ailing, dying. Aliyah would replace her, become a cell in the Three-times-Three. She was almost ready.

"I can almost hear them, now," Aliyah said. Shereen ran her finger lightly down Aliyah's spine, marvelling at the enforced skeleton that pressed against the delicate skin. "Whispering, at the edge of consciousness. It's not quite a singular identity, not really, it's more of

a choir of voices, that merge into one. With old echoes, old voices weaving into the music. One day soon I will cease being a singular note, and become an orchestra."

"A part of an orchestra."

"Maybe. But at least I will keep on living, as sound, as one note in a perfect symphony."

"While mine will fade and die?" Shereen said, wryly. Aliyah touched her face. "I did not mean…" she said.

"I know what you meant."

Aliyah withdrew her hand. "I don't want a fight," she said, softly.

"Then don't start one."

They stared at each other in silence across the bed. Then: "I'm sorry," Shereen said.

"No, I'm–"

Outside a mosque was calling the faithful to prayer; green cockatoos sang to each other across the tall spindly trees; a group of children ran down the corridor chasing a ball; inside the room it was dark; and nothing, for the moment, was resolved.

It was, essentially, a trade dispute.

Though what is trade if not religion, and what is religion if not commerce? It was, perhaps, first and foremost about prestige.

Old tensions rose to the lunar surface…

The Houses were never so crass as to engage in open warfare. A century earlier the so-called Format Wars erupted in Polyport. Who is to say a Three-times-Three is the perfect format, for instance, for a human network? It is linked on a grid. A single unit◦– a One-times-One◦– can operate independently when need be, at normal human capacity, but it can also link with two of its sisters, forming a One-times-Three linear triple processor. Those Trips can then link vertically and horizontally to form a grid, a perfect◦– so they say◦– unit, a true Sisterhood.

Haifa al-Sahara, or rather the Three-times-Three Sisterhood that had once contained the human once known by that name, argued for the perfection of the form. But others had ambition, and no such faith in the purity of her numbers.

The first Eight-times-Eight had founded the House of Domicile, and others soon followed. The Sisters of the House of Mirth argued the form was too cumbersome, processing ponderous, optimal operations sluggish at best.

And yet the Eight-times-Eights flourished, and the House of Domicile soon encompassed five Sisterhoods, of which it was said that they sometimes joined, in a grid of Five-times-Eight-times-Eight, a massive processing mind occupying some four stories of real estate,

only one of which was above ground.

Obviously, the House of Domicile proclaimed its own superiority, and that◦– naturally◦– rankled with the House of Mirth, as the oldest and◦– up to that time◦– strongest of the newly-risen Houses and Sisterhoods. Then came the Sisterhoods of Odd, the Five-times-Sixes of the House of Forgetting, asymmetrical and strange, and they allied themselves with the House of Domicile's Eight-times-Eights.

Two factions, then: the three houses of the Three-times-Threes, versus the other two houses and their multiplicity of Sisterhoods.

A century back, the rise of the Houses led to conflicts both within and without; over a period of some twenty years the Houses consolidated, accumulated followers and adherents, and finally rested in an uneasy peace.

That peace was now in danger of breaking, and thus unsettling Titanic society as a whole.

The Houses, therefore, sought a compromise…

It was late at night, in Shereen's apartment. That special silence that comes with deep night, when even the birds sleep. When I-loops all across and down the city processed slowly, neural networks embedded in a grey mass within a bone skull, billions of neurons firing together into the illusion of an "I", a "me", all sinking, momentarily, into a dream or dreamless state, the one akin to hallucination, the other to death.

They had made love; the bedsheets clung to their skin with the sweat. A single candle burned on Shereen's windowsill. Aliyah said, "The old cell, the One-times-One: her health is better."

"I see."

"You are happy?"

Shereen pulled herself up, the light from the candle threw shadows on the wall. "I don't want you to become one of them," she said. The words cost her everything. Getting them out at last felt like a revelation. Aliyah laughed, softly. "Do you think I don't know?"

"Then why do you do it? Do you not love me?"

"You know I do."

"Then *why*?"

"Because I want to. I need to. Because there is more to life than you or me. I want to be a part of something bigger than either of us."

"But why?" all the pain inside her came out in that voice.

"I don't know why," Aliyah said, but gently. That night she was very gentle, even her love-making was filled with care; it contrasted with Shereen's urgency. "I just know."

"But they will not take you. Not the Three-times-Threes. Not when they have all their parts–"

“Yes–”

“What?” Shereen said◦– demanded. Suspicion, hurt, in her eyes.

“I have been going to the House of Domicile,” Aliyah said quietly.

“When?” Shereen’s voice, too, was low. “I did not see you there.”

“I know. I went when you were not working. I did not want to upset you.”

“And now?”

“You’re upset. We can talk about it in the morning.”

“We can talk about it now.”

Aliyah sighed.

“Why have you been going to the House of Domicile?” That suspicion, again. “You want to join another Sisterhood?”

“Not… exactly.”

“Then what? I don’t–”

“Don’t you?”

It was so quiet in the room. The candle fluttered in invisible wind from outside. “They won’t,” Shereen said. “They can’t.”

Aliyah moved to her; Shereen moved away. “Don’t,” she said.

“They can. *We* can. Shereen–”

“Don’t!”

“It is better that I do this. It is better than conflict. Better than war. We cannot afford it, not again, not so soon. Not the city, not the world. The Houses have too much power, now.”

“It should never have come to that.”

“What would you have instead? Others?”

“People,” Shereen said.

“Oh, grow up, Shereen.” She made as if to push back a lock of hair, then found that, of course, it wasn’t there. There was something innocent, human, about that gesture. At that moment Shereen couldn’t help but love her very much. “And we are people, too.”

“Since when is it we?” Shereen said; but she sounded defeated. “When?” she said.

“Soon.”

“And they agree? Both of them?”

“They agree to try.”

“We would not see each other.”

“No.”

“Would you even know who I was?”

“Of course I would. We would. You would always live on, Shereen. In my◦– in our◦– memory. Even when my body and yours are back in the ground, fertilisers of new life in the gardens.”

“Trust you to bring the conversation back to death, and fertiliser?” Shereen tried to laugh; it came out choked. “Were you always so obsessed with death?”

“Not with death but with not dying,” Aliyah said; her body shook, and it took Shereen a moment to realise she was crying.

“Come here,” she said, awkwardly. Aliyah came to her and nestled in Shereen’s arms. Shereen could feel her heart beating, inside the fragile, human frame of her. “Is it really so bad?” she said, but even as she spoke, she knew it was futile; that Aliyah had already decided, decided long ago, perhaps; and that this was simply her choosing of a time to finally say goodbye.

The Initiation and the end of Aliyah’s Novitiate came some two weeks later, at a private ceremony in the House of Forgetting, which was historically the least affiliated◦– and the weakest◦– of the Houses. A Three-times-Three from the House of Mirth was there, and an Eight-times-Eight from the House of Domicile. And there, in between them, was Aliyah◦– dressed in a plain white shift, her head unscarfed and bare, the fine blue veins of filaments running underneath her translucent skin.

Shereen, too, was there◦– not as a guest, but unobtrusive, cleaning. She saw the Sisterhoods meet, half-heard as they conversed, aware of the high-bandwidth transfer of data around her, and the half-understood words, and subtle signals of physical signs. She daren’t watch too much, there was something in her eyes, it must have been the chemicals in the new cleaning fluid, its smell made it hard for her to breathe.

Aliyah shone brightly, like an angel. Light suffused her, it rose from her skin, from her eyes. The Houses could not fight and so they’d reached a compromise, a way of speaking which was a way of sharing: and a One-times-One became a point linking two networks, became a router and a hub, became a One-times-Eight-times-Eight-times-Three-times-Three, was cleaved in two; and spliced together.

When it was over there was no discernible sign; only the act of both Sisterhoods slowly departing, without words; only their hosts remaining, and the newest Sister, the one who belonged to two Sisterhoods, and had once known Shereen.

Shereen scrubbed the surface of the table, scrubbed it until its wooden surface shone. When she raised her head again even the host Sisters were gone; when she turned back to the surface of the table, she saw Aliyah, momentarily, reflected in it. She turned her head. Aliyah stood there, watching her. Shereen raised her hand. Her fingers brushed Aliyah’s cheek, the skin of her face. Aliyah bore it without words. Her eyes watched Shereen, and yet they didn’t see her. After a moment she inched her head, as if acknowledging, or settling, something. Then she, too, were gone.

There are four Three-times-Three Sisters in the House of Mirth, and five in the House of Heaven and Hell, and two in the House of Shelter. Four plus five plus two Three-by-Threes, and they represent one faction of the city.

There are two Five-time-Six Sisters in the House of Forgetting, and five Eight-by-Eights in the House of Domicile, and they represent a second faction of the city.

There is a bridge between them, now. An understanding, and cargo continues to come and go through Polyphemus Port. And Shereen who is a one, and will one day be zero, continues to work in the House of Mirth, and in the House of Domicile, and she watches the Sisters on their silent comings and goings; and she wonders, sometimes, of what could have been, and of what didn't; but to do that is, after all, only human.

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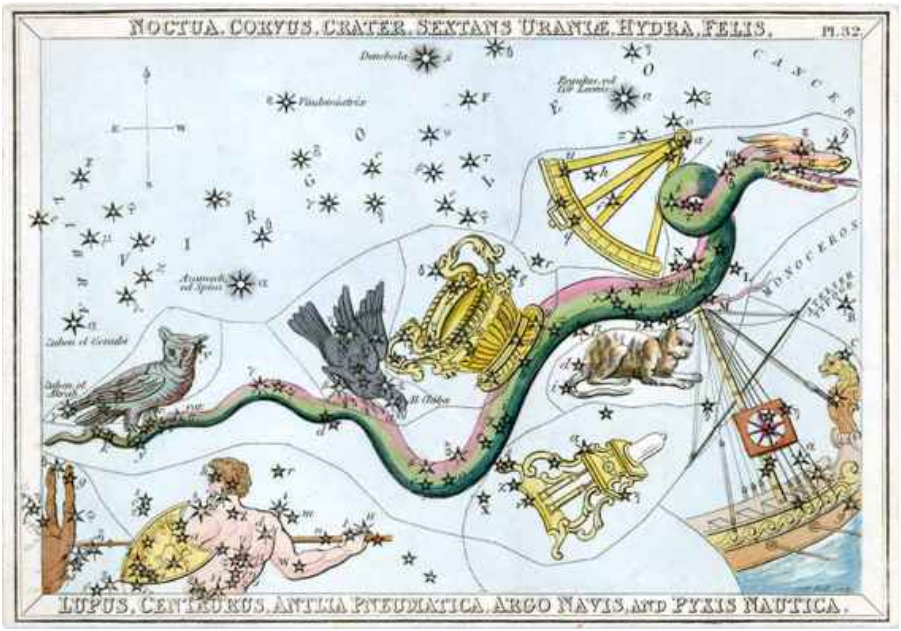



*I qualied at the prospect of the void between the planets. Would it be cold or fiery? In a perpectual storm?*

———

*Detail of "Urania's Mirror": one of 32 cards illustrating the heavens for the latitude of London. The cards are hand-coloured and show the constellations. Each star is pricked out in the centre, and due to the tissue paper backing, the light shines through when the card is held up. (c1825)*

# URANUS
## ESTHER SAXEY

The *RMS Carmania* stood at dock, serene despite the gull screams and mud stink. Christopher had left me watchdog to three trunks and a brace of hatboxes.

A lad rushed over to earn a tip.

'Saw yer friend,' he said, as he loaded the trunks onto a trolley. "Are you two artists?"

I would be leaving England within the hour. A queer impulse prompted me to announce: "No. We are Uranians."

To my surprise, he grinned.

"What, is that like a Martian? Are you two from another planet?"

It wasn't even the first time I'd heard this witticism. I began to hate Mr. H.G. Wells.

Being Uranians has led Christopher and me to travel a lot. Never fleeing in disgrace. Not yet. Not quite. Few trips came as near the knuckle as our escape to Paris, ten years ago.

Christopher and I had met at College (Trinity) but we hadn't been the best of friends, only two of a group. As we lost good men to marriage, we grew more intimate. Not loving, not on my part. Perhaps had he been taller, less hairy, less like an anxious mole… But why would all that matter, you ask, when Uranian love is for the noble disposition? (Plato told Christopher so, and Christopher told me.) At the time, I believed that nobility would shine through in some physical way: graceful movement, sparkling eyes. So I would love my beloved's mind, but my beloved would also be beautiful. I was insufferable.

Christopher took me out every week for art or opera. He gave me Uranian pamphlets, which I forgot to read, and poetry, which made me melancholy. In his presence I felt, always, that I was failing an examination.

Until one night when he burst into my rooms, hatless and agitated.

"He'll be arrested this evening!"

We were admirers of Oscar Wilde (you could have known it by our neckties alone). Oscar's libel case had just taken a disastrous turn.

Christopher cried: "We have to leave England!" He then made the most eloquent plea of his life. His proposal: we take the boat train that night to Paris, to live where laws were more liberal.

I'd been torn between two idols, until that moment. Should I be a

witty cynic, like Wilde? Or embrace the world as my brother, and find delight in every drop of dew, like Walt Whitman in his poems? I'd ricocheted between the two approaches, by turns aloof and sentimental. Now, Christopher was pushing me hard towards Whitman-ish optimism: freedom, he said, brotherhood!

While my man packed for me, I mused aloud: "If you think it's dangerous to stay, perhaps I should warn some of my friends…"

"Oh. Well, we *could*." He was right to be sullen, because I was lying. I wasn't thinking of danger. No, I was thinking: I could burst in on a friend, the same way Christopher had burst in on me. Make the same impassioned speech, steal all Christopher's best lines. Woo my friend! Win him!

And I would have done it. But there wasn't one man who stood out above the others. Uranian love is lifelong (said Plato-through-Christopher). So I couldn't accidentally shackle myself to a dullard. I'd been flitting about and fantasising, dithering over who to honour with my constancy.

The Waterloo platform was white with steam and swarming. Valets crowded the train corridors. Gentlemen sat in silent rows in every compartment, spines stiff with nerves. Nobody spoke. Half the Uranians of London were on the train.

Christopher's energy was spent, but I was exhilarated by our flight. I wondered: should I make a speech? *Brothers! We are travelling together. Once we reach Paris, must we disperse, like droplets in the ocean? Is this the greatest gathering of our kind since Athens? Surely, we should… We must…*

I stood in the corridor by an open window, getting my nerve up. I looked into the starry night and told myself that the dark was as homelike and wholesome to me as the day. My brothers were beautiful (although not, I thought, all equally beautiful, and some couples shockingly mismatched). And somewhere up above us was our planet: gorgeous, mysterious Uranus. Pale blue, glowing from within, winding around the sun once every eighty-four years (Chris owned a small book on the subject). Unknowable, remote! My ruling celestial body!

"Everything to your satisfaction, sir?"

He spoke like a steward, but his bottle-green velvet suit put the lie to it.

"One shouldn't have all one's satisfactions satisfied," I spluttered, failing to be Wildean.

His face was sly and his nose was broken. Edward Carpenter, the socialist said (via Christopher) that love may exist most purely between men of different classes. I wondered: who buys this lad's clothes? Who bought his ticket for this train? His arm pressed mine as

the train jolted. It was all very sudden. Were we both under the influence of our heavenly patron?

"Sir," he said. "Can I kiss you?"

The last trace of my cynicism boiled away. I gave my passionate assent.

He pulled back and smirked. "That's handy to know," he said, and hopped off up the corridor, to boast to his chums.

I crept back to my compartment. I didn't make a speech to my fellow travellers.

On the ferry to France, I felt my purpose renewed. My lustful body was lost property. In Paris, I would be pure. No more self-deception. No more frittering my time looking for noble minds at tennis clubs. I'd been a terrible Uranian◦– we should be scholars, but I'd never stuck to any kind of study. I turned to Christopher.

"I didn't bring anything to read. Do you…?"

I wondered if he would produce *A Problem in Greek Ethics* and the deck would ring with cries of recognition. But he pulled out a slim tome from the Theosophists. I winced at the opening sentence: *Kâmaloka as it is called in Sanskrit…* But then the tone altered. The author was speaking of something termed the *astral plane*. He assured me that the astral plane was absolutely *real*. As real as Charing Cross. I missed Charing Cross already. I was persuaded of his common sense.

I read about the astral body, a thing apart from the fleshly body. The concept gripped me. (Of course it did: I had more-or-less eloped with a man I didn't desire, and I wished to be so spiritual that his hairy hands wouldn't distress me.)

I read that my astral body could fly through the air, if I desired it. No, if I put my *mind* to it.

At our Parisian hotel Christopher slept. In my room, I prepared to make a further, audacious journey.

The book on astral travel had frustratingly little in the way of instruction. I lay on my bed, conscious of my sweating back. The boy from the train drifted into my mind, and I pushed him away. I pushed away all fleshly things◦– I pushed myself out of my body.

I left. I lifted. It had worked. I hovered.

I feared to look down on my own fleshly body, so I passed on, up, through the ceiling of the hotel room. I was naked. I was naked of *myself*, without a body. I wasn't cold. I could hear, faintly, the horses and the music of the Paris street. But my only crisp sense was sight. I saw Paris◦– a glittering mosaic. I took it in at a glance and then looked up to the stars. Could I go up, I thought, until the lights of the stars and the lights of Paris were of equal size, constellations above and below me?

How to move? Against what could I push? Should I flap my arms? I had no arms. I saw the moon. I thought: there! And leapt.

Such a pace would have made my stomach sick but I had no stomach. I was gleeful at my lightness and speed. Nevertheless, I quailed at the prospect of the void between the planets. I'd forgotten most of what I'd read in Christopher's small book. Would it be cold or fiery? In a perpetual storm? It was calm as a millpond and almost empty. Dust, small rocks, passed through me.

The pockmarked face of the moon grew closer, whiter. I thought the surface would become less stark, but it remained without colour, and without grey shades; it was all white planes and black shadows. I was dazzled◦– I blinked◦– I did not blink, having no eyelids. Then why was I dazzled, having no eyes? I found that if I opened every part of myself to perception, I could see-perceive with other-eyes, and look straight at the sheets of lava, shiny as a japanned table, which had previously blinded me.

No living world, this. No greenery in the crevices and crevasses (and no plants of other colours, either, Mr Wells). Severity everywhere in form as well as palette: sharp lava fragments piled like spillikins. I saw soundless avalanches rush down from the summits of volcanoes. I tried to listen with other-ears, and heard instead a great growling, like arguments shouted between nations.

Some of the lava and stones of this uninhabited land resembled ramparts and amphitheatres. I thought it an unsettling coincidence. Then I couldn't be sure: soaring over one plane, I saw beneath me a shape like a fortress, perched over a riverbed. I thought I saw arches, pillars, fallen columns, an aqueduct, even? But perhaps they were spat out by the thousand local Etnas, or whittled by lunar hurricanes.

I longed to know but I found I couldn't stoop or stop. I was exhausted. As soon as my efforts slackened, I felt, attached to me, a sort of silver cord that I somehow knew connected me to my fleshly body. It tugged me like the kind hand of a good friend on my shoulder: *Come along, old boy, you've had enough.*

I flew home. The moon was plucked from me, dwindled, became a coin in the sky.

The silver cord hauled me in. A good thing, too, I thought, as I approached the rooftops of Paris: I'd not remembered where in the city I was lodged.

Snap! I woke breathless and chilled. In my murky brown bedroom, the memory of that austere landscape was like a slap. It had been the most terrific experience of my life.

"Sounds like Verne," Christopher said, ripping open a pastry.

"Like what?"

“That story by Jules Verne. Griffiths read it to us, at a picnic at college. In translation, of course.”

I nodded. I blew across a bowl of hot chocolate. I was enjoying, supremely, being back in my body. Knowing it as only one of my bodies. It took me a while to think through the implications of Christopher’s suggestion.

“Without eyes…” I began.

“What?” I’d interrupted him.

“Sorry◦– without my eyes, when I was travelling, I was perceiving through some other sense.”

“And?”

“I was perceiving things too far from my own experience for me to understand them. So I translated them into familiar forms. Perhaps with practice, I could see more truly…”

“I expect you were lucid dreaming!” he cried. “I’ve always wanted to do that.”

“What’s that?”

“It’s a dream state…”

“One travels in a dream state?”

He rolled his eyes.

“One *thinks* one travels. You make things up, you direct your imagination while you’re asleep.”

He was impressed how much I’d controlled my dream state, how far I had pulled the wool over my own eyes. He urged me to “travel” again.

But there were other things to occupy me. We had to find a flat, Paris demanded to be explored. And my cynical Wildean side sneered: really? Cities in space? Moon-men? Who are you, to explore the stars? Until the memory of my trip crumpled my chest like the end of a love affair.

I never had a firm opinion as to whether Christopher or I was right. But I didn’t travel again.

After a year, he was calling himself Christophe. I slunk back, treacherously, to England. “Oscar isn’t even released from prison, yet!” objected Christopher. But I missed Charing Cross. Christopher had made friends with French men, but I hadn’t: my sense of universal brotherhood had ebbed, and I couldn’t manage the vowels.

I thought, often, whether it would have been different if I’d made my speech on the train. If I’d allowed sincerity to conquer cynicism. I became, without meaning to, cold and distant. I was on a fixed path, unable to intersect with warmer men.

Christopher forgave me enough to take me, once or twice a year, on a trip. Each expedition had a fraction of the exhilaration of our Parisian exile: trunks packed, the funnel of a boat steaming. We

looked for communities of Uranians in Sweden, India, Turkey, and (endlessly) Greece. My feelings of guilt towards my friend were as hefty as my luggage.

So now, as we found our cabins on the *Carmania* setting out for America, I bowed the knee to him again.

"I've forgotten to bring anything to read. Could I borrow something from your excellent little library?"

He drew out a pile of books. Amazingly, amongst them was the volume from our French trip, on astral travel. For sentimental reasons?

Once more, the book drew me in. I went to my bed as eagerly as a bridegroom. I would slip the bonds of earth. I would touch the face of heaven.

It wasn't my wrath at Mr. Wells alone that set my destination. I knew◦– I believed◦– that I had once travelled to the moon. I could reach, surely, for our nearest planet?

A moment of hyperawareness. My itching nose. The crisp sheets.

Then, up! This time, I was flying in daylight. The ship underneath me was a white toy on a blue sea, and when I climbed◦– and I did so confidently◦– the stars came out. Towards the great white face of the moon and past it. Its dark side was the first thing that really frightened me: craters the size of countries, with shadows so dark that I hallucinated things that squirmed and sparkled.

I marshalled all I remembered from Christopher's small book and located the Red Planet. A red dot like a hot star. I set my course towards it and leaped.

And Wells was wrong! He was wrong entirely. I didn't even need to get close enough to see the surface of the planet before I knew he was mistaken. The red of Mars wasn't caused by a weed, or any kind of plant. Instead, it was◦– as far as I could tell◦– a property of dust. A hot and howling crimson mist, caused by ceaseless sandstorms. Like the haunted landscapes in the largest rubies: demon-chasms, their walls collapsing in, but never filling them, as debris is always boiling up out of them.

I sought a quieter spot: the long canals of Mars. I swooped down and hid in their cool, geometric shelter.

And there were others there with me.

They were near to my shape, seeming to be seated in a ring, but on no visible ledges or stones. I thought them inhabitants of Mars, at first. They were not tripod machines, nor had they oily tentacles◦– they were beautiful! Then I saw, trailing behind them, the silver thread that could take each of them home (so much more flimsy than it felt when embedded in one's own guts). Then I knew them to be

thoughtforms, visitors like myself, gathered here. Possibly they lived too far apart on Earth to meet through ordinary means, or perhaps they wanted secrecy. I drew close and, under the howling of the storms, I heard them speak faintly to one another.

They had come to Mars to plan war.

*last raid of the campaign, guys*

*need to synchronise*

*hell yes*

*mcneill sets up a bombardment*

*doing it already*

*ellis, you send in your divisions to draw the initial attack*

*why mine*

*because we all had heavier losses than you last time*

*yeah, because I'm not an idiot*

I had thought war would sound grander.

*we agreed it already, ellis*

*your divisions soak up the hits*

*ellis you agreed*

*ellis?*

*bathroom break*

The form that had just spoken melted into translucence

*every time*

*has he got some kind of medical condition*

*we'll miss our window*

Which of these tired youngsters was the general? Perhaps they were all civil servants. I moved closer. The translucent one became more substantial again.

*I'm back but my visuals are weird, anyone else?*

*ours are fine*

*your machine's pathetic, ellis*

*I can see right down the valley to the encampment*

*well I've got some crappy space theme or a desert maybe*

*so have I, now*

*it's really cheap-ass*

One of the men of war turned and noticed me.

*someone else just checked in*

*did you invite him?*

*god no*

*it's a closed group, isn't it? who invited him?*

*he's the one messing up the visuals*

*this is supposed to be a private room*

*they're never secure*

*jesus get the mods to lock him out*

*and throw up some earthworks while we're waiting*

A wall of Martian rock reared up in front of my feet. But it had no substance, and I stepped through it.

*jesus*

The men of war threw their weapons at me. Bombs flew, bullets whizzed through me. When their objects failed to touch me, they sent other, uncanny attacks. They blasted out their knowledge of past atrocities and it crumbled my bones. Like a disorientating cloud, I was surrounded by their indifference to suffering. I stumbled back.

But I also instinctively sent a scathing retaliation: flying barbs, then acid drops falling from the Martian clouds. I saw them flinch.

"I mean you no harm!" I called. Could men of war understand such a sentiment? The sound of my voice sent them into new confusion.

*where's he coming in from*
*tell the mods to block his account*
*can't see who his provider is*
*this is a nightmare*
*we could change channel?*
*why should we have to go anywhere?*
*tell the mods to push him on*
*call off the raid?*
*we'll miss our window!*
*we've missed it, we're screwed*

The men turned to steam. Their walls and bombs and clouds faded with them.

And my silver cord pulled me back, because someone was shaking my physical body, hard.

Whipped back through thousands of miles of space. It felt like the air was sucked out of my lungs, but I had none.

I opened my eyes and saw a crinkled face, bending down into my own. A hairy hand on my chest, shaking me.

"Oh, thank the Lord, I thought you'd died." Christopher sat with a thump on the bed next to my feet. "Did you take a sleeping draught?"

I found my mouth and tongue where I'd left them. "Sorry. I sleep deeply, these days." Should I tell him where I'd been? I couldn't stand him dismissing me again. "Where are we, please?"

"Fifty miles out of Liverpool into the Irish Sea. Heading for the Atlantic." His frown had lifted. He'd become more accustomed to exile than to England. We were both going to strange lands, but he was also heading home.

Later that night, as I approached Mars for the second time, I wasn't alone.

"Christopher!"

He flew next to me, wearing a vivid blue necktie I'd never seen in the flesh.

I was delighted◦– vindicated! I wondered how I'd brought him along. But his substance was different from mine, and different from the warmongers on Mars: crisper, brighter. Had he been here before?

"Oh, I'm not Christopher." He said it with absolute assurance, in his usual nasal voice. It was as eerie as if he'd said: "I'm dead, of course."

"Who are you?"

"I'm a mod, actually."

"A what?"

"A guide. Keeping the channels secure."

He made a little dip in the air and took my hand to tow me along. His hand felt warm.

"I don't…"

"I'm just steering you away from where you're not supposed to be." He smiled away my uncertainty. "Come on, I know this place better than you."

"Why do you look like my friend?"

"I don't look any way in particular. You're making me look like this."

Of course! The explanation I'd given Christopher, years ago◦– that my mind was interpreting what I could see. "Because you're the last person I saw? Or because I think of you as my guide?" I'd always been a passive traveller. It was Christopher who booked the tickets and read aloud from the *Baedeker*.

"It could be that. Or perhaps you're anxious? You've picked something comforting." He sounded embarrassed for me. "It really all depends on your settings."

We sailed over a waterfall of asteroids. Christopher's new necktie glowed in the reflected light of Mars. I was amazed that I'd remembered so many details of him as to make this charming waxwork.

"So do you have any relation to my friend? Are any parts of you him?"

"Well, what parts were you interested in?"

Flying together loosened my tongue. Nothing ventured! Although, perhaps, in this confusing cosmology, nothing could be gained. Could he answer a question to which I didn't know the answer?

"I'd wondered if you're happier, these days◦– and how we stand…"

He laughed again. "How thoughtful!" If I was imagining him, was I mocking myself? "No time to talk, though. You're being bumped over to the next channel."

“I don’t…”

Ahead of us reared a clean, silver planet, white caps at its poles.

“One of the recreational channels. Have a good time there.”

Morning star, evening star, bright beautiful planet. I somehow knew it would be more hospitable to life than Mars. More fecund.

“It won’t be like the last channel,” Christopher confirmed. “You can talk to anyone who takes your fancy, there.”

“There’ll be people?”

“Plenty of people.”

“Venus-ians?” I shuddered slightly at the nomenclature of the dread Wells.

“Travellers. Like yourself.”

“Will you stay and speak to them?”

He shook his head. “Don’t think that would even work. I’m just moving you over. I’d best head off.”

Venus was thick like soup with heat.

A cluster of figures stood not far from me. Again, wholly astral creatures. I extended my◦– interest? Sight? Soul?◦– to them. Several were women, the first naked women I’d ever seen and more naked than they could be in the flesh. But we were beyond reserve or modesty.

They turned on me. Their lust washed over me. The heat of it bubbled and blistered me. I was eyed up without eyes, handled without hands.

“Ladies!” I responded, to prevent a misunderstanding. “I do not desire you!”

The soupy heat of Venus grew chilly.

“I mean no offense! I am a disciple of another love, in which the female has no part!”

I was spat out. They turned their backs-not-backs on me. It was exactly like being cut at a party. As I made further protests, I was astonished to hear them refer to me as an arsehole, a complete cock, and other epithets.

My anger took form. I was more adept than the last time I’d tried it, on Mars; walls flew up around me, almost before I knew I was their architect. The women exploded the walls by flooding them with lava. I sprouted a pillar from the ground beneath me to lift me above the red flow, and I rained grey fog all over my opponents. The lava around their legs coagulated into greyish rock. I was quite merciless, scrutinising their agonised coils, reminiscent of those who perished at Pompeii.

Their thoughtforms reached out to drag me down. I streaked away in disgust at myself and them.

The airs above Venus were far cooler than the surface. I became

aware of other fliers, an escort surrounding me. Their forms were minimal, their greetings like chirping or cooing.

*hullo!*

*who are you!*

I introduced myself and asked, in wonder, who they were.

*just mods!*

"Like that vision of Christopher? But you don't look…"

*who's Christopher?*

*just here to keep the channel friendly!*

*had reports about you*

*losing us custom!*

*terms of service!*

*who's your account provider?*

A friendly hailstorm. A floating conscience, almost. How could I have been so violent, so cruel? I had been contaminated by Venusian feelings, of the body rather than the mind. I apologised profusely for my behaviour.

*no problem!*

*where you coming in from?*

"Earth," I said. Their giggles were icicles.

*don't know your way around the channels!*

*not the right place at all*

*you'd rather be with the boys!*

*are we right? we're right!*

*try another channel!*

They sprang away across space and I knew what they referred to, where I needed to go.

The luminous pale blue planet. My namesake. Far out away from the sun, but it might shed its own light (Christopher's small book told me), and it might also be heated from within. I'd always hoped its colour was the blue of a year-round Spring sky.

Could I get there?

But fear prevented me, and I let the silver cord pull me back. Snap!

I had to hunt Christopher all over the ship before I found him in a bar with a crowd of other passengers, chattering in German and drinking *Schnaps*. I thought it unfair he hadn't told me his friends would be aboard, but then I realised he'd only met them that morning. I sat on the edge of the group. An Englishman with a walrus moustache enthused about how there would soon be larger and better ships than this mammoth transatlantic liner. I, dizzy from another kind of travel, could not share his excitement.

I saw that Christopher had become more and more interesting

over his ten year in exile, while I'd stagnated. Had he made peace with being a Uranian? Perhaps brotherly love was enough for him, the brief, intense connections that form between travellers. Maybe he was never tempted. Maybe he frolicked nightly with his chess opponents. I didn't think he was still grubbing around in Whitman's poems looking for a solution. Unlike me.

Eventually, I had drunk enough that my friend had to help me to my cabin and my bed. He poured me a glass of water. I was melancholy and I had to concentrate to remember that this Christopher hadn't steered me across the void. I'd never held his hand.

"Are you alright? Do you need the ship's doctor?"

"It's not that."

He was the spit and image of my celestial guide. My heart poured out of me despite myself.

"Christopher, if you have a great longing for a◦– thing, a feeling of great kinship with this thing, and then you realise that it might actually be possible to see it, to *feel*…"

"What thing?"

But I could not speak the name of my planet. He would think me ridiculous, again. Or he'd enthusiastically tell me to dream, again, for dreaming was all I'd done. I tried to describe my dilemma in less specific terms.

"Chris, is it normal to feel wary◦– to not even know if you should try to *approach*…"

I suddenly feared that he might misunderstand me, and think I was declaring a long-overdue love. Then his raised eyebrow deflated that notion. I blustered on.

"Because what if it's not the answer? What if you're stuck with being lonely, and not at ease, and it's not because you have any particular connection to◦– this thing. What if it's nothing to do with…?"

He smiled and turned down my cabin light. We were used to helping one another when worse for wear. He wasn't waiting for my revelation; he had given up on loving me, years ago. But, I realised, I had not given up the idea that he loved me. He'd go back to his deck friends as soon as I fell asleep. I closed my eyes.

Brave again in the dark, I decided to tell him. I murmured:

"I still want to. I want it. I want to *touch*…"

My knuckles struck the cabin wall. My hand had been foraging about without my volition.

Christopher had already gone.

Later, I went back, drunker, to the deck. I shouted: "The female has no part!" Christopher's friends stared at me. Christopher helped me to bed, again.

It was no hardship, the following morning, to leave my body.

As soon as I was moving among the planets, my companions from Venus re-joined me.

*you again!*

*we lost you!*

*we like you!*

*can't let you back in there though*

*sorry!*

Their feather-light push speeded me on. And I heard-without-ears the voices of my warmonger foes:

*my view's gone fuzzy*

*it's him again*

*call in the supermod*

*have him shut down*

Christopher appeared, for a brief moment, in the air before me, waving his arms in warning. Overtaking him was something like a flock of carnivorous birds, or a rock fall that twisted in space to chase me. They called to one another in a grating crackle.

*how is he moving across the damn channels*

*can't cut him off through his provider*

*provider's unclear*

I sped on but the missiles dogged me. I raced them; they were hard put to keep up with me. I only need to outpace them for a little longer! We swung together around the enormous bulk of Jupiter, dodged between the rings of Saturn. I was out of breath, I had no breath, they were shouting behind me.

*wandering all over*

*not a user, it can't be*

*only an error*

*clean it up*

The blue planet came into sight. I knew at once that I'd been right◦– that it was a warm planet, a perpetual spring morning.

I went lower and dropped through the blue.

The planet wasn't featureless at all. There was a wood, a great greenwood, moss paths dusted with pollen.

*where is it now*

*there, in that empty channel*

*looks busy in there*

*it's coming from him*

*he's populating the place*

There was dew on the grass, and I delighted in it, and the dark in among the trees was homelike and wholesome.

*we should lock him in*

*cut the account off from the machine*
*just disconnect it*
*lock him in there*
*yeah try it*

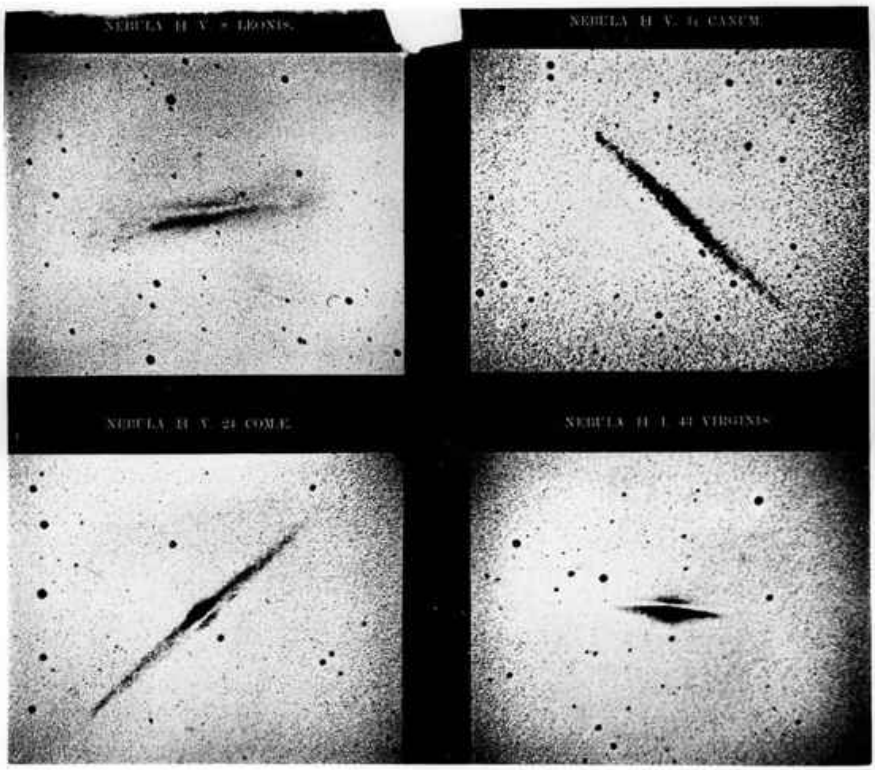
And in a clearing of the woods was a college quad and the quad was the agora of Greece, and a crowd of young men smiled to see me come to join their conversation. My college friends, unencumbered by wives and children, stood with other men I had not yet met.

I felt pain all through me. The hideous mod-birds were above me, tearing at my silver rope with metal teeth. I knew they wanted to stop me from travelling. If I hurried, I could still use the rope, still let it pull me, and I might manage to get home.

I didn't want to go home. I'd come home. Christopher would understand. I took up the tight-stretched silver cord in my hands, near to my not-body, and wrapped it neatly around each not-fist. It would only take one quick –

*locked him in*
*done it*
Snap!

-




*The wind picks up and he is pieces now, carried on the current, through the mist, into an icy nothing.*

———

*A glass slide, depicting the shapes of four different galaxies (erroneously labelled as nebulae). (c1900)*

# FROM THIS DAY FORWARD
## DAVID BRYHER

Ted had always preferred his own company, but this was ridiculous.

"What should I call you?"

"Ted."

"That's a bit weird."

"Was this not explained to you in orientation? FentiCorp don't let clones mix with friends and relatives of the donor. There's no need to…"

Ted raised his hand. "No, it's okay. I remember. It's still weird. I mean, I can't call you Ted."

"You don't need to call me anything. You'll depart in a day or two. We don't need to see each other again."

"After this," Ted said, glancing at the steaming pot of coffee on the white plastic table, at the empty sofa opposite his own.

"After this," his clone replied with a nod. "May I…?"

"Oh, feel free." Ted waved at the other sofa, then slumped back into the cushions. He puffed out his cheeks and ignored the cold knot that was developing in his stomach. He didn't know what to say next.

"Coffee?" his clone asked, leaning forward to pour two cups anyway. He handed one to Ted. "So, as you understand, we're here to discuss any physical or mental peculiarities of this body. The kind of thing that only an experienced user would know. What can you tell me?"

Ted sipped from his cup and the coffee tasted dark and rich and chocolatey. The Trident had the best coffee he'd tasted in the solar system. He was going to miss that, for a start. He wondered if he could take some with him.

He licked his lips, then replied, "Your knees are going to ache in wet weather. Don't ask me why– they always have. And if you're going to be sat down a lot, get a chair with lumbar support."

"FentiCorp do not currently deploy their clones in office positions."

Ted stared hard at the black liquid in his cup. "No," he said, his voice soft. "I'm sorry, of course they don't."

"You're sorry? Are you feeling guilty?" The clone's voice was light, almost surprised.

"You don't even talk like me."

"That's not answering the question."

"So what am I now, some sort of counsellor?"

“In FentiCorp’s experience, donors sometimes find it easier to open up to their clones.”

“A counsellor who talks like I’m in marketing or something.”

There was a brief pause. The clone was trying not to smile. Ted looked away.

“Don’t worry about me,” the clone said. “I’ll be fine.”

Ted nodded. Sniffed. Why was his nose runny all of a sudden? “Is this going to take long? What else do you need?”

“Are there any psychological triggers I need to be aware of?”

“I went through all this with the agent, like a hundred times.”

“Of course. But in FentiCorp’s experience, donors–”

“Or maybe I’m someone who just reads out what I’m told to?” Ted was getting a headache. Do I sound this annoying all the time?

The clone paused. “You’re not too keen on proper procedures, I take it.”

Ted shrugged.

The clone looked at the bulging blue bruise on the inside of his wrist, poked it with a finger and frowned. Ted could see the small incision, where the medibot had inserted the failsafe capsule. “If you’re not happy with the arrangement–”

“Who is?” Ted tried to ignore the buzzing waves of nausea coursing through his body. “There can’t be a single person passing through this place who’s happy about being here.”

“I wouldn’t know,” the clone said, turning his mirror gaze straight on Ted. “I haven’t been here long.”

The blue blur of Neptune slid by underneath them, a faintly curved horizon slanting across the gallery window in the bar. The twisting ribbons of the planet’s atmosphere glowed in the spotlights on the underside of the Trident. It was an unsettling sight. It seemed too close. Ted thought he should hear the planet roar.

His footsteps clicked on the marble floor as he entered the room. Unidentifiable music drifted through the still, cool air. Above the bar hung an illuminated canopy, twinkling with a thousand champagne-coloured shards of glass. Glowing in the golden light beneath, there was a selection of just about every alcohol imaginable.

The décor aimed for rich and sumptuous but it fell short. With laughter and the chink of glasses and a little bit of warmth, maybe it would get there. But the Trident wasn’t a busy hotel right now◦– Ted wondered if it ever was◦– and of the couple of dozen tables here, only one was occupied.

As he reached the bar, he glanced out of the window again. A shadow was biting at the stars. (And he tried to ignore the one, slightly brighter dot in the distance. The Sun, so far behind him.) The

silhouette of a new ship, coming in to dock. At least the Trident would have more guests soon.

He wondered who they might be. He wondered if they'd meet. He wondered if there was any point.

There was no server at the bar; you were supposed to just help yourself. Despite the price he had paid to stay here, and for FentiCorp's services, he still felt awkward about that, so he poured himself a modest gin from a gem-blue bottle, then smothered it with tonic. He took a couple of deep swallows before he went to join Marco at the table.

"How did it go?" Marco's eyes reflected the shimmering gold light from the bar. "Everything okay?"

"I guess. Well. It was a bit…" He put his drink down and turned the glass this way and that, staring at the clear liquid. "I mean, didn't you find it weird?"

Marco shrugged and sipped at his own drink. "We're outta here," he said, flicking his fingers towards the window. "What does it matter?"

Ted gulped at his gin again. Marco drained his own glass, then slipped into the next chair round the table, closer to Ted. He put his hand on his knee. "Make it better?" Marco's eyes sparkled in the dim light of the bar. Oh, those champagne eyes.

Ted laughed. He leant over and kissed him. "Not tonight, babe."

Marco's hand climbed higher. "You can't refuse a man on his last night in the solar system."

"Second to last."

"Details." Higher still. "We're condemned men now. Nothing left to live for. Nobody looking over our shoulder. May as well enjoy the freedom."

Ted shuffled his leg away. "Seriously," he said, trying to inject amusement into his voice but◦– really? Condemned? "Just leave it, Marco."

Marco stiffened and sat upright. "Fine."

"Don't be like that. It's been a weird day."

"Sure it has, yeah."

"Marco, baby."

Marco pushed his empty glass into the centre of the table. "Whatever. I'm going to bed."

Condemned. Like what? Like the way a building is condemned? Uninhabitable. Unsafe. Ready for demolition.

Or like a soul is condemned?

Ted hadn't been able to sleep. He'd come back to find Marco in bed, sleeping◦– or, more likely, pretending to sleep. He'd lain down

next to him, but his thoughts would not lie down too.

Ted was annoyed. He didn't like being unable to sleep, and on the rare occasions insomnia had troubled him, it was because there were too many thoughts whirling round his head. The last time, it had been when they were first talking about selling their liferights. All those things to think about: what would their friends say? Their family? Could they afford to buy passage out of the system? Did they even really want to leave, knowing they wouldn't be welcome back? They would have to give up everything, but was it worth it? It was no wonder Ted lost a few nights' sleep to that decision.

But tonight, there was just the one thought. And that single thought wouldn't let in any others, and it roared like Neptune should be roaring.

They were leaving behind their bodies. What remained after that was condemned.

Ted quietly got out of bed, grabbed a robe and slipped out of the room. The corridor outside was chilly and silent. The tiled floor was cold beneath his bare feet, so he headed down to the lounge, where he could grab a coffee and enjoy the deep pile of the only carpets aboard the Trident.

He turned the corner into the lobby, and he heard the drone of a vacuum cleaner coming from the next room. There was someone in the lounge, cleaning those precious carpets, by the sounds of it. But the hotel was automated. There was no one else here. Just Ted, Marco, and their…

Ted's clone passed the open door of the lounge, pushing the vacuum ahead of him. Ted froze. He stood by the corner of the corridor, hovering half out of sight. Just about the last thing he needed was a conversation with his clone. He needed to clear his head, not muddy it further.

He watched his clone for a moment, crossing this way and that past the open door. The clone was almost smiling. He seemed… Ted thought the best word for it was 'content' and, for a moment, he was reassured. Maybe this was the right thing after all, for his copy as well as himself.

In a few days, once Ted had left the solar system for good, that clone would head inwards, back towards the Sun, back to where he was needed. The property of FentiCorp, sure, but he had a guaranteed job for life. And, thanks to the behavioural conditioning that was part of the force-grow process, his clone would be happy. He'd have a fraction of a life, but it would be enough. For him.

Ted slipped back round the corner, out of sight. He leant against the metal wall and sighed. Maybe Marco had been right all along. Maybe they didn't need their liferights, because maybe their life was

just a piece of shit. FentiCorp was welcome to it. About the only good thing they had was each other◦– and they got to keep that, along with a ticket to a new life out there, beyond the edge of the solar system. So what if they leave behind a couple of familiar-looking shells. Who gives a shit?

That's the past.

What they get in return is the future. All their screw-ups put behind them. A fresh start. A blank slate.

In the end, Ted stayed up all night, watching old movies in the entertainment suite. His eyes were dry and sore when he finally realised what time it was. He rushed to the restaurant to find Marco, breakfast done, finishing off his coffee.

Ted sat down next to him.

"I'm sorry about last night," he said. "I was just feeling a bit shitty. I shouldn't have been so weird with you."

Marco arched a sniffy eyebrow as he drained his cup. "Good morning to you, too."

Ted grabbed Marco's free hand and squeezed it. He lifted it to his lips and kissed it. Marco smiled, despite himself.

"So how do you want to spend the day?"

"One thing," Marco said, "before all that."

"Anything."

"Just answer me honestly. You want to go back, don't you?"

Ted glanced out of the gallery window and instantly regretted it. He knew how it would look to Marco, how it would seem like he was casting one last, longing gaze at home, and so he knew he wouldn't believe his answer when it came. But it was the truth: "No. I don't. I promise you." He squeezed Marco's hand again. "I was just feeling a bit funny about… about what we're leaving behind."

"What we're leaving behind? What *are* we leaving? Your dad, who hates me? My fucking family, in and out of fucking court every five minutes? Or maybe your glittering career in civil engineering. You make sewers, Ted. People literally *shit* on your job."

"Marco, seriously…" Ted kept his voice level and smooth. He'd dealt with a thousand of Marco's bad moods and snapping back was going to get them precisely nowhere. "I don't want to go back. I am happy to put all that behind us. But…"

*No! Idiot! Not "but". Anything but "but".*

Marco's jaw clenched. Ted saw it all in his eyes, what he thought Ted was thinking: *But I have doubts. But I have regrets. But I'm lying.* That's not what he was about to say. He had to finish his sentence now, he couldn't leave it hanging, though he knew how weak it would sound to Marco, how hollowly it would ring against the assumptions

he had already made. "*But* I was letting it all get on top of me. I was just feeling down about it. Come on, be reasonable◦– I'm allowed to be a bit sad, aren't I?"

*Big mistake. Don't flip it back.*

Marco tutted and turned away from him.

Ted was about to say something when he heard footsteps. Last night's arrival, joining them for breakfast. He glanced towards the door to see a woman, middle aged, in a sharp grey skirt suit. Needlessly formal, Ted thought. He tightened the belt on his robe, suddenly self-conscious.

"That could be the last other human face we see," he whispered, nodding towards the woman.

"See?" Marco hissed. "You don't want to go."

"What? How do you get that?"

As the woman picked some bacon out of one of the heated trays, she glanced in their direction. She smiled thinly, and Ted tried to smile back, but everyone in the room knew there was an argument going on and nobody wanted to get any more involved than they already were.

"I don't care if I never see another living soul," said Marco. "But you're obviously going to miss it. You don't want to go."

"I do. Jesus, Marco. *I want to go.*"

"I thought this is what you wanted." *(It is! Didn't I just say that?)* "A new start, away from all that bullshit behind us."

"Yes, I do. Bu… *However*, it's not been that easy to just throw it all away. I mean, I'm ready now, but–"

"But what?"

*Bollocks.*

"But *what*, Ted? You didn't want to throw it all away? Fine. I believe you. But you were fucking happy enough to sell it when it came down to it."

"You make it sound like it was easy. You think this whole fucking thing is easy. This is my *life* you're talking about."

"Wrong. It *was* your life." Marco stood. "Kiss it goodbye, Ted. It's gone."

He marched towards the door without looking back. His retreating footsteps were swallowed by the silence.

He heard the woman clear her throat.

*Now. Right about now, Neptune, would be a good time to start roaring.*

He glanced over at the woman. She had taken a seat nearer the gallery window, and he thought to himself: *I have never seen someone more fascinated by the view from a window.*

Ted spent a few more hours in the entertainment suite. Most of that time he passed by lying on one of the ridiculously squishy sofas◦– *the last time you'll see upholstery like this*◦– trying to nap. But he couldn't ever quite get to sleep, Marco's angry words still ringing around his head.

Ted had not, it would probably be fair to say, handled the situation well.

They had to leave the next morning. Their permit window was narrow, and if they missed it, that was it, the deal with FentiCorp was over and they would have to limp home◦– at their own expense. And then, they'd have to live with limited access to the inner planets only. Marco would hate that even more.

He swung his legs round and sat up. If he knew Marco◦– although this morning might suggest that he didn't◦– he'd be in the spa. On the running machine, probably. Or maybe in the sauna. One way or another, he'd be sweating out his bad mood.

*How long will we spend aboard our ship? We might die in there. Just me and him, living out the rest of our lives, winding each other up. How's he going to sweat out his moods in there? We'll have to build a sauna. It can't be that difficult. There must be a way. We won't last five minutes without one. I'll figure out how to make one. I* have *to.*

Knotting the belt on his robe, he crossed the lobby, following the tinkling music spilling from the spa's smoked-glass doors. The rugs felt warm under his bare feet and he caught himself thinking, *This is no way to spend your last day in sight of the Sun. In a dressing gown.*

He decided he'd get dressed◦– after he apologised to Marco.

Ted found him stepping out of the showers, towelling his hair. His eyes were scrunched up tight, so he didn't spot him at first. Ted cleared his throat, and said Marco's name out loud.

Marco opened his eyes and froze, his long fringe held in a bunch of towel.

Ted stepped forward. "I'm sorry," he said. "I messed up. I was too caught up in my thoughts, and I said some stupid things."

Marco said nothing. He barely moved a muscle. Water pooled around his feet.

"I'm just nervous," Ted added with a shrug. "You know, who knows what's out there? I was just freaking out a bit, I didn't know what I was thinking. But look…"

Ted moved closer.

Marco lowered the towel, holding it loosely at his waist.

Ted put his hand on Marco's arm◦– the same one holding the towel. Marco stared at it like he'd never seen it before. Then his eyes met Ted's. Ted smiled and moved closer still.

"Everything we're leaving behind," Ted said, "all that shit◦– it's

*right* that we're putting it behind us. But that doesn't make what's in front of us any less scary."

Now Marco smiled too– that soft smile that puffed his cheeks up like pillows. Ted took hold of Marco's fingers and gently insinuated them into his grip; Marco dropped the towel and held Ted's hand.

"I'm sorry," Ted said. "Make it better?"

Marco's smiled broadened. He tipped his head to meet Ted's. They kissed.

"A blank slate, yeah? That's what we need, isn't it? A blank slate. A fresh start. A chance to build a new life. Just for us. You and me, Marco. That's all I want."

Afterwards, Ted showered, but when he came out, there was no sign of Marco at all. He wasn't in the room either– his stuff was gone, too. A red light was blinking on the console by the bed.

"Trident?" said Ted to his room, waiting for the answering *bing* of the hotel's computer system. "Has Marco checked out?"

A soft voice replied: "Yes. Mr. Campbell is currently in the departures suite. He told me to say he would wait for you there."

*Keen. Very Marco.*

Everyone who wanted to leave the solar system had to do so via the Trident, and everyone who stayed at the Trident was required to spend their final night in the departures suite. This room was effectively quarantined from the rest of the hotel, and in the final hours before departure, guests were given one last medical exam and had to fill out a few more bits of FentiCorp paperwork. Once you went in, that was it.

No way back.

Ted took a deep breath.

He dumped the robe on the floor, threw on a T-shirt and jeans, then crammed the rest of his clothes into his bag. Marco had already taken the toiletries from the bathroom, so Ted was at the reception console in the lobby within just a few minutes.

As he was checking out, he saw his clone carrying a tray of clean glasses towards the bar. The clone smiled awkwardly and quickened his pace, but Ted said, "Hey, wait, just a minute."

Ted quickly signed off on the check-out process, ignoring the polite voice thanking him and giving him directions to the departures suite as he turned to face his double. "We're off now, so… You know. Bye."

"Goodbye. I hope you had a pleasant stay."

"No you don't. I don't think you really care one way or another."

The clone didn't reply to that.

"Look," said Ted, "I've got a question."

“I am happy to help.”

“Just… Do you guys◦– you know, the clones◦– do you have relationships?”

“That aspect of the human experience is coded out during the conception process.”

“Coded out? *Jesus*. Ow. I’m sorry.”

“Don’t be,” said the clone. Ted couldn’t read his smile. “It’s not like I’m going to miss something I never had. And remember◦– your memories aren’t my memories. My memories only started a few months ago.” The clone shrugged. “I’m a blank slate.”

Ted chuckled. “Then we have one thing in common.”

“Marco?”

Ted stepped into the living area in the departure suite. The door clicked shut behind him, then he heard the puckering of something hydraulic which he tried to ignore. (*No way back.*)

Three closed metal doors studded the wall opposite, a dome-shaped light on the wall above each. Two lights were inactive, and the third was red. The doors seemed out of place in the otherwise plush room. A sheepskin rug covered most of the floor and a plump sofa sat facing a video image of a roaring fire. In an alcove to one side there was a high double bed, richly made-up with colourful linens. The lighting was soft, and the air was dry and warm. Ted thought he could smell cinnamon.

If there was going to be a “last hotel room you ever stayed in”, it might as well be this one.

“Marco? Are you there?”

He dumped his bag on the floor, then noticed another blinking red light on a console next to the sofa.

“Trident?”

“Marco is currently undergoing his final physical examination, in medical room one. Room Two is free. Would you like to take your examination now?”

Ted shrugged and said yes. One of the other lights in the wall opposite turned green and the door beneath it hissed open. Ted stepped inside.

After three boring hours lying under an MRI scanner and a further hour at a console tidying up the last of the liferights contracts, Ted was exhausted. Rubbing his eyes, he stepped out of the examination room to find the fire switched off and the lighting dimmed. Marco was sleeping soundly in the bed.

Feeling more ready for sleep than he had been in months, Ted joined him. The satin sheets sighed underneath him, and he barely

had time to sigh with them before sleep took hold.

*He is in blue, naked. A wind tears by, licking at his skin. Mist curls around him, thickening and thinning in curves and waves. Ice shifts beneath his feet, floating on an invisible ocean of black. Sometimes he sees stars above. Sometimes, he sees nothing but blue. Biting blue. Teeth nibbling at his fingertips. He looks down and the skin hangs loose like a tattered flag sucked away by the wind. He sees his face◦– his mouth a silent circle, his eyes empty shadows. Skin torn by the wind. The roaring wind. The roar. His features dissolving as, fragment by fragment, they are carried away into the blue. The wind picks up and he is pieces now, carried on the current, through the mist, into an icy nothing where he sees the shattered atoms blown away, out of the cold, back towards the light, back towards –*

"Ted!"

He mumbled, smacked his lips, rolled over. Where was he?

"Jesus, Ted. Just shut the fuck up and let me sleep."

The bed rocked as Marco turned his back. Beautiful Marco. Brilliant Marco. The light to lead him on. His light. Ted stroked Marco's shoulder. His skin was warm and smooth under his palm.

Marco shrugged him away and hunkered down under the sheets.

"Just fuck *off*, Ted."

And then Ted slept a deep, black sleep, with no blue.

The Trident was behind them. They sat now in the twin pilots' chairs on the flight deck of their ship. The ship they'd sold everything to buy. Every last penny on a ship, the permits, the stay at the Trident, and FentiCorp's assisted departure service. Every last penny and then some.

The ship's engines had been spinning up since before they boarded, and now they were starting to whine. Marco flicked a switch on the console and the acoustic dampeners kicked in, deadening the noise. Finally, Ted could hear himself think.

Clipboard in hand, he swiped at the computer screen and ran through a few final checks. He threw Marco a smile and got little more than a sneer in return. Marco liked his sleep, sure, but he wasn't usually this pissed off if it was interrupted.

Everything checked out. The ship was good to go. He transmitted his ready message to the Trident.

"This is it, then."

Marco said nothing. He just stared out of the viewscreen into the darkness ahead of them.

Ted wondered…

"You don't still think I'm having second thoughts, do you?"

Silence.

"You *know* that I'm not, though. Right? I want to see what's

waiting out there for us. A new life, just for us. Like I said, yeah?"

"What?" Marco still wouldn't look at him, but Ted supposed a one-word response could be considered progress.

"You know. A blank slate."

"What are you talking about?" Now, Marco did turn to look at Ted◦– and the confusion on his face was clear. "Last thing I know it's all 'Oh, I feel a bit weird' or 'I feel a bit sad'. Now it's all supposed to be some great adventure? Will you make your fucking mind up?"

"What?"

"Blank slate? What the fuck are you talking about?"

"Yesterday," Ted said. "In the spa."

"What? The spa?"

"Yesterday, you were in the spa. We talked and I–"

"I don't know what the fuck you're on about now."

"Marco. In the spa, you and me. We talked, and then…"

There was a cold weight in Ted's stomach, the pull of realisation trying to suck him under the ground. There was a dull clank and the flight deck shook as the docking clamps released the ship. As the ship's artificial gravity clicked into place, taking over from the Trident's, Ted's stomach lurched again. The engines fired and the ship started to drift away from the hotel, into the blackness beyond human space.

"You and me," Ted said. "You've got to remember. Please, you have to. We fucked."

"What?" Mark's eyes were little scratches of confusion. "We *what*?"

"We fucking fucked."

"No we didn't◦– what the fuck are you even… Oh, fuck."

"Marco, I'm sorry. Shit. I'm sorry."

"You prick!"

"I had no idea!"

"No idea? You *prick*!"

The console trilled an alarm, and the communicator flared into life. Ted recognised some of the music from the hotel bar, which played for a second before the Trident's computer voice kicked in.

Marco released the clip holding his safety harness in place. He glared at Ted, his jaw tense, then he stood and stomped into the back of the ship. As he went, he spat over his shoulder, "Fuck you, Ted."

Ted let his head fall forward, his chin rubbing against the straps of his harness, as the Trident's recorded message played:

"Thank you for using FentiCorp's assisted departure service. We hope your experience has been a pleasant one. Your ship's communicator will remain in range of the Neptune signalling array for 48 hours, during which time your feedback is welcome. As you depart

on your uniquely crafted trajectory out of human space, we would like to thank you for your custom and wish you the very best of luck on your journey of discovery. Please remember to prioritise the regular maintenance of the ship's engines and your hiber-units, to ensure your continued survival on your journey."

Ted unclipped his own harness and followed Marco. "Babe? Baby, I'm sorry. I'm a fucking idiot…"

"Your ship will shortly be accelerating to near-light speeds made possible by FentiCorp's gravitational engineers' Push-Pulse network. In a matter of moments, you will be propelled beyond the edge of the solar system and beyond the limits of current human exploration. FentiCorp thanks you for your bravery and pioneering spirit. You carry the destiny of humanity with you among the stars, and FentiCorp is proud to be a part of your journey."

There was a soft chime from the console, but there was no one there to hear it.

"You are now leaving the solar system. Goodbye, and good luck."

-

*Don't you think I look beautiful now, Pluto?*

———

*A satirical cartoon showing a near-collision between the Earth and what appears to be a comet. The 19th and early 20th centuries saw*

*many media scares about collisions of this kind. (c1900)*

# WE'LL ALWAYS BE HERE
## S. L. GREY

Pluto's skin is sallow, almost grey, when she stands in the darkness, something she does often. She shivers against the bulkheads, wishing that she could just drop this burden, walk outside and crumble to icy shards in the first impossible wind. Sharon, on the other hand, spends all her time in the solarium, playing childish games with the braindeads.

Pluto was cursed from the very start. She grew up believing her parents had named her after the planetoid, and something about that resonated with her◦– the coldness, the peripheral darkness, the loneliness◦– but found out on her last birthday, when she turned fifteen, that they named her after an animal in an ancient fucking cartoon on 2D. A "dog", they'd told her in the delayed-release message, a symbol of loyalty and friendship and joy, colour and innocence, but she'd never seen a dog and in the pictures she saw they looked like deformed freaks, bent and cowered, using their arms to walk and covered with matted hair. Their holos emitted the most unholy stink of rot and halitosis.

Nice one, parents. She reminds herself what cunts they were every time she misses them.

Pluto and Sharon were sent away when their parents died. Whoever was in charge considered it an unproductive use of Earth's dwindling hospitable space to harbour orphans, and they certainly weren't going to be sent to any of the plush new territories on Mars or the Moon. The day after the service they were packed off to Eros, the furthest, really, they could be sent from home without being dead.

Pluto looks out of the viewport across the lilting wastes to the solarium, the colourful, fake terraforming, the sun lamps embedded in its dome outglaring the real sun, which lurches in and out of view as the bone-shaped rock topples through space. Just the thought of that nauseous sun sends Pluto fishing for her motion sickness inhaler. Unbidden, a memory of her mother intrudes, cradling her hand, damping her forehead when she had a fever, her father lying in the next cot, reading a story to Sharon. Pluto was always the sick one; throat infections, ear infections. Sharon would just blunder along through her childhood, always wrapped up in her own imagination; padded, impervious.

She had a vague sense of the enclaves back then, places where they would be made safe from the virus. Some of her school friends and their parents had already gone, sold everything they could to

leave, but there was the one-child limit. She didn't understand it all then; it only played out in those late-night discussions in the lounge. "We can't separate them. We just can't." Both of them crying. She forgives her mother, but she hates her father for crying. It was his job to be strong, to come up with a solution. But he just sat and cried. Until it was too late and they got it too. Just as well, then, that they died before they had to choose. It was only logical that they'd choose Sharon.

Pluto moves to the back wall and touches her hand to the bulkhead, trying to feel the frigid, real vacuum outside. Just a couple of metres and she could be frozen to nothing in the fresh void. She thinks of her parents in those last days, always trying too hard to be cheerful, trying to put a positive spin on it. "The solariums on Eros are beautiful, honey," her mother would say. "They try to make it nice for you. They know what the young people want. And we'll always be here." She'd pat Pluto's chest, as if that would make everything better.

"It'll be like a holiday camp," her father would chip in, but so unconvincingly. She'd watch him turn and wipe his eyes dry.

Sharon has decided that it's time for another group makeover. As the leader of the Ugly Pretties, it's up to her to choose the group's new hair style. After much deliberation, she's chosen something called a "short Dutch boy cut" from cycle sixteen of her all-time favourite history show, America's Next Top Model. Last night she managed to procure a pair of scissors and a mirror without L.O.L.A the hygiene bot noticing (an easy feat as L.O.L.A's surveillance units have decayed past the point of no return) and a comb from the box containing Sister Angelique's last effects. While she waits for the Ugly Pretties' feeding tubes to be removed by the canteen bots, she heads to the solarium to practice her walk. It's hard to keep straight-backed and focused now that Eros's gravity stabilisers are on the fritz, but she does her best to imagine that she's striding down a fashion show runway, Tyra Banks and Miss J cheering her on from the sidelines. She loves Tyra Banks. Tyra's what a perfect mother should be. Harsh yet kind, always full of advice on how to smize◦– smile with your eyes, find your inner confidence and pose for that perfect ugly-pretty shot.

The rest of the Ugly Pretties finally file into the solarium. Pluto calls them brain-fucked retards, which isn't really fair as they can't help the way they are. Before Sister Margaret's bones deteriorated and she went to the great nunnery in the sky, she told Sharon the reason why the Ugly Pretties are unable to speak and understand only the most basic of commands. According to Sister Margaret, their parents put them into cryogenic storage during the Canadian cataclysm decades ago in an attempt to keep them safe. No one knew what to do

with them when they were accidentally defrosted and brain-damaged, so they were shipped off, like Sharon, Pluto and the other unwanted girls, to Our Lady of Eternal Resolution's orphanage on Eros. Sedna is the most damaged of the group ("nothing more than a meat puppet" Pluto calls her), Makemake's skin is always clammy, and Eris and Haumea's eyes never seem to focus. But they're all Sharon's got since the other girls succumbed to the bone-rot that wiped out the nuns and the counsellors. "You and your little followers," Pluto likes to hiss whenever they run into each other in the canteen, "make me fucking sick." Still, Sharon always feels a thrill when her twin sister speaks to her. Insults are better than being ignored.

"Welcome," Sharon says to the Ugly Pretties. "I see before me four beautiful young ladies. Four beautiful young ladies who are in need of a… makeover!" Sedna merely grunts, Haumea absently bats at the drool that continuously leaks from the corner of her mouth and Eris and Makemake sway as the gravity pull knocks them off balance. Sharon wishes, just once, that they'd squeal and jump up and down like the models on Tyra's 2D show. Any reaction at all would be good. Sharon smothers a wave of despair. She can't give into it. She's the leader, the queen bee, she needs to keep upbeat and perky. She decides to start with Makemake. "Girlfriend," Sharon says to her, "I'm going to wipe away that dreckitude for once and for all."

Makemake slumps obediently while Sharon gets to work with the scissors. She doesn't even flinch when Sharon accidentally nicks her ear and blood dribbles sluggishly onto the collar of her robe. The hairstyle isn't as easy to pull off as it looked on the 2D. Sharon can't get the edges even and ends up cutting Makemake's limp black hair shorter and shorter until she resembles one of the pre-euthanised oldies on the holos. "There!" Sharon says with forced cheer. "Makemake, you are still in the running to be America's Next Top Model!" Sharon looks into the mirror and starts hacking away at her own hair, slicing her fringe into what she hopes is a straight line. It's easier the second time, although the scissors aren't as sharp as she'd like.

There are only two things that Sharon wants. One is to be able to smize; the other is for her sister to love her. The things Pluto says sometimes, it's as if she blames her for their parents' death. But how can that be? She didn't inject them with the euthanising fluid, did she? She was only eight when they died. Pluto won't let her see their holos, and Sharon can't even recall their faces. When she tries to remember them, an image of Tyra Banks and Nigel, Tyra's fellow cycle-sixteen judge, pops into her head.

But maybe, now that she's had another makeover, now that she looks beautiful, like a real model, Pluto will want to spend time with

her.

"Come on," she says to the Ugly Pretties. Makemake moans in assent, the others dribble and fidget but file obediently behind her as she makes her way to the library where she hopes she'll find her sister.

The power stutters again and the screen goes blank. Shit. Pluto considers ripping the tablet out of its bracket and hurling across the room, but she can't be bothered. Besides, she's got too much on her mind.

She checked the maintenance rosters this morning, just as Sister Margaret showed her. Everything's still at optimal levels. There shouldn't be a problem. "Eskombot? Eskombot?" she calls. "Are you here?"

*Bleedity-bleat*, goes the logistics system's voice interface in response.

"I'm trying to read," she says. "Why is there intermittent power in the library?"

*Eedilty-bleat.*

Pluto's grown practised at interpreting the system's failing voice chip. She guesses he◦– it◦– is saying the power's been restored. True enough, all the tablets are rebooting themselves.

"Now I've lost my fucking bookmark," she mutters. "When I–" but something makes her stop. A small hitch in the background noise. She spins around, but there's nothing, nobody. The door's closed, as always; the library vacant except for her, as always. She listens. The air system is pumping along as inconspicuously as ever.

But now the nuns are all dead and the bots are malfunctioning. If the power can fail, even for a second…

A thump of panic cracks her ribs. She forces herself to calm down and looks around her. She's sitting in a medium-sized room outfitted to be comfortable, the upholstery smelling of mould, and has been complaining to the wires in the wall. It's not productive if she's going to keep this place running. This is her life now, just her and her twin, rolling in darkness, alone. She can't find solace, like Sharon, in the cold company of the braindeads. She sometimes wishes that her parents hadn't given them the expensive immune boosters before they died. If she and Sharon died along with all the others, there would be nothing to worry about.

She tries to disappear into her novel about a robot law-enforcer who rides a camel, but she can't relax. She keeps running through the maintenance tables in her mind. Is it her fault? Is she doing something wrong?

"Eskombot?"

*Eedle.*

"Send Sister Margaret's maintenance roster to this screen, please."

*Eedle-doot.* The figures array themselves in front of her.

The rock topples just so and there's a flash from the outside, then a glare. Pluto gets up and walks across to the viewport. It's probably another panel failing in one of the generator stacks, but she can almost imagine a golden hue to the light, that the air outside is warm and fragrant. She feels the cold sweat of her hands cleave to the glass and closes her eyes. She imagines◦– or does she remember?◦– a place where there was blue water lying all over the surface, and blue sky, and bending trees with huge, green leaves; and people, lying in their underwear in a glaring sun. So many people, little children too, laughing, running, all smelling of fruit and flowers and blue and green, saturated and hot. Something inside her remembers the heat, the sense of being wrapped up in colour and moisture. It doesn't feel like a holo memory but surely that's all she's got. Did she ever go to a place like this when she was small? But places like this didn't exist when she was alive; the world was burnt black when they had to send her away. All the holos of places like this were from a long time ago.

But still, the memory's so strong, it's as if she's there. She presses her face to the cold surface and breathes in, deeper than she ever has. She's in a place where she could walk outside and not freeze and not burn and take off all her clothes and melt into the air and the colour. She remembers being there, how the sun thawed them like something sweet and sticky and brown. Her mother was lacing her fingers up Pluto's neck and into Pluto's hair. She swears she can recall her father holding Sharon on her hip. Sharon was giggling, eating something◦– that soft, cold thing they used to have◦– and offering it to her father. Who was laughing. If she tried hard enough, she could become one with the –

The door punches open.

"We thought we'd find you here!" Sharon trills. "Why're you crying?"

One of the braindeads, the egg-shaped one, gurgles hur-hur-hur behind her.

And Pluto's back here again, locked in a metal box on a cold rock, with a cluster of dense freaks for company. She's going to fucking kill Sharon.

"Pluto! What do you think of my makeover?" Sharon twirls in front of her sister, who pushes away from the viewport, which she's been kissing or something, wipes at her face, and takes a hit of her inhaler. Sharon rarely needs hers. She isn't as susceptible to motion sickness for some reason. Haumea bangs against the bulkhead as

Eros's cycle reaches its zenith and Sharon automatically reaches out to steady her. "Don't you think I look beautiful now, Pluto?"

Pluto snorts and shakes her head. "You look like a fucking idiot. Take your retards and leave me alone."

Sharon struggles to keep her smile in place. Sister Angelique used to advise her not to take Pluto's spiteful words to heart. "Jealousy is a terrible emotion, Sharon," she'd say whenever Pluto sniped at her during Mass or in class. Still, Sharon has to admit that the nuns and the older girls always gave her far more attention than they ever gave Pluto. She and Pluto may be twins, but they don't look or act alike. Pluto's hair is dyed a flat lifeless black whereas everyone said that Sharon's hair shimmered like the sun. Maybe, Sharon thinks, the way to Pluto's heart is to make herself uglier, rather than beautifuller. But what would Tyra say about that? She'd say that by not making the most of her appearance Sharon wasn't being true to herself, she say that Sharon wasn't owning her look, and that if she's not careful she'll be eliminated.

Visiting Pluto was a mistake. Since Sister Margaret went to join Jesus three days ago, there are no nuns or older girls to mediate. "Please don't be mean to me, Pluto. I haven't done anything to you."

"You've done everything to me!" Pluto roars. "I was first. I came out first. It's not fair that they kept you too. You're the reason our parents are dead, Sharon."

Makemake shakes her head. "Uh-uh."

"Shut up, retard," Pluto hisses at her.

"I didn't kill them!"

"Maybe not literally, but it's because of you they had to die. They couldn't go to the enclave with both of us. They should have chosen me. They should have survived."

"That's not true. They got sick, that's why they–"

"It is true." Pluto snaps and Haumea flinches. "If it wasn't for you I wouldn't be in this cold, stinking place. I wouldn't have to…"

Sharon can't stop the tears. "You wouldn't have to what?" The Ugly Pretties have picked up on Sharon's distress and start moaning in unison.

Pluto straightens up and glares. "I hate you, Sharon."

Sharon backs away from her, tries to remember the words to the Novena of Our Child Jesus, but can't find the words. "Hail Mary full of grace. The Lord is with–"

"Prayers aren't going to help you. The nuns aren't going to help you. Your pathetic life is in my fucking hands."

They may be twins, but Pluto is bigger and stronger. She darts forward, her dyed hair swinging in front of her face, filling Sharon's vision. Sharon drops to her knees, covers her head with her hands.

"Ug."

Sharon looks up. Makemake is swaying in front of Pluto. Pluto is staring in disbelief at her, blood gouting out of her nose.

"Your retard hit me!" Pluto roars. "Get out get out get out get out!"

"Come on," Sharon whispers. Tears soaking her face, she flees the library, the thump of the Ugly Pretties' feet close behind her. She stumbles blindly to the hatch that leads down into the chapel. She'll pray to Jesus and Tyra for guidance and if that doesn't work, well, she'll think of something else.

When Sharon and her circle have left, Pluto closes the door carefully. She'd love to slam it but she doesn't want to risk a leak. She rubs her hand over her throbbing nose and looks at the blood on her palm. She can't believe that freak hit her but, in a way, she's impressed that she did. Showed some initiative, some fucking backbone. The blood pools dark in her palm and thins out to scarlet where it slips over the edge, by far the brightest colour in this room, on the whole godforsaken rock. She wipes it into her T-shirt, not in the mood to swallow her pride and go down the corridor to the bathroom. She sits on her chair and leans back, swallowing the warm choke until the flow stops.

At length she straightens and looks at the screen in front of her. The maintenance grids still glow softly, each line checked in green. Supplies are still at decent levels and she knows the system will send a replenishment request before they get too low. Or at least that's how it's supposed to work.

As Sister Margaret explained it all to her, she said, "Don't worry, child. You don't have to remember it all now. There'll be plenty of time to go through it again." Her hands shook and her face was shocked through with spasms of pain as she spoke. There wasn't plenty of time and the fragments that Pluto remembers are shifting and reshaping in her memory. She's messing it up.

She's lived here half her life and the coming and going of supply pods every six months was just part of the scenery; she began to take it all for granted. The replenishment system's supposed to unpack and restock and keep the compound's supplies level, but what if it's failing like Eskombot's voice chip and L.O.L.A's surveillance unit?

"Eskombot?"

*Oodle-weet.*

"Bring up the communications tableau, please."

*Barp-oodle-blort.*

"I am an administrator. I'm the only fu◦– I'm the only administrator here. I've taken over from Sister Margaret. You know

this."

*Bloop-eedle.*

A box flashes onto the screen. "Enter administrator password."

Oh, Goddess. What was it? The sign of the cross something, or the stations of the cross. How many were there? She checks the encyclopedia on the tablet next to her. Fourteen, that's right. And then her pet's name. She had a pet creature on Earth, which she had to leave behind. One that was small and didn't take up resources. She kept it in a cardboard box until it ate its way out. Then she kept it in a jar when she found it again. That's it.

She types in "14xRoachy" and the communications tableau slides over the screen.

She scrolls through the contact list. There are lists of names of the diocesan leadership and, more to her relief, there are contact names of people at the supply station. Someone there will help if things get too rough.

An icon is throbbing red near the bottom of the pane and it takes Pluto a moment to realise that it indicates that there are unopened messages. She swipes the icon and three headers come into the centre of the screen. The first is addressed to Sister Margaret. Pluto taps on it and a small holo of a priest emerges and starts offering the last rites. The second is addressed to "OLER Orphanage: Urgent contact request". It's a text message and Pluto skims it guiltily, even though she's now in charge: "Would <person-in-charge> at OLER Orphanage contact Security Cardinal Joseph at New Vatican base with extreme urgency." Then something about a contingency reactor and something about "CA distance in AUs" and "relative velocity". The header of the third message pulls her eye away. It's been forwarded to OLER Orphanage, but the message title is "Pluto and Sharon, our brave girls".

Sharon doesn't bother with the mirror. She hacks blindly at her fringe, tries not to look down at the pile of blonde hair growing at her feet. Snick, snick, snick, all fall down. Sister Margaret used to say that shorn hair was a symbol of penitence, but she and Sister Angelique seemed to take great pride in their long plaited locks.

The Ugly Pretties grumble and grunt behind her. "I'm sorry," Sharon whispers, grabbing another hank of hair and slicing through it. "I know Tyra wouldn't like it. But the makeover didn't work. If I'm uglier, maybe then Pluto will like me."

It doesn't take long. She runs her hand over the uneven surface of her scalp, the tufts tickling her palm. Her head actually feels lighter. She turns to look at the Ugly Pretties. For a split second, Makemake's eyes catch hers and Sharon catches a shadow of sadness in them

before they lose focus again. Sharon takes off the short skirt she spent hours customising and changes into a plain blue robe.

One last chance. If Pluto goes to hit her or shouts at her then she'll give up forever. She considers leaving the Ugly Pretties in the solarium, but decides to take them with her to the library. Just in case.

Sharon enters cautiously. Pluto's standing with her back to the door, staring down at a screen, her shoulders shaking. Is she laughing at something?

"Um… Pluto?"

Pluto's back stiffens. And when she turns around Sharon realises she's not laughing after all. Her body is wracked with sobs, blood and snot caked on her cheeks. A spike of fear stabs Sharon's heart. "Pluto? What's happened?" Sharon has never seen Pluto cry. Not even when they were first brought here. Not even when the other girls laughed at her for spending all her time reading. Not even when they wrapped up Sister Margaret's body and sealed it in her cabin so that the smell of her decomposing body wouldn't spread through the compound.

Pluto doesn't answer straight away. Sharon holds her breath. For once, the Ugly Pretties are completely silent. "Pluto? Are you sad because Makemake hit you? She didn't mean it."

Pluto jerks, wipes her face and struggles to get her breathing under control. "No. It's not that. You need to see this. Come here."

Sharon hesitates.

"I'm not going to hit you." Pluto taps a code out. "Look."

A holo of a man and a woman wearing brightly coloured sarongs shimmers to life. A huge expanse of blue ocean glimmers behind them. In the background, Sharon can hear the sigh of gentle water, the squeal of children's laughter.

"Who are they?" Sharon asks, but she knows. She just doesn't want to say it.

"It's them. Our parents."

"This is the holo you never let me see? The one they made before they died?"

"No. They sent this yesterday."

"But … but that's impossible."

"Just watch it," Pluto snaps. Somehow, Sharon's relieved she's back to her usual irritated self. Makemake starts clapping her hands and Sharon waits for Pluto to shout at her to stop. She doesn't.

The mother (Sharon can't quite make herself think of this woman, with her dyed orange skin and glaring white teeth as her mother◦– she looks nothing like Tyra) glances uneasily at the father. He tries a smile. "Hello, Pluto. Hello, Sharon. It must come as a shock to see us after all these years." He laughs nervously. Sharon flinches as Pluto

reaches over and grasps her hand. Sharon doesn't recognise these people, the sight of them doesn't ignite any old memories or flood her with longing. She feels more emotion when she watches the old shows. "We decided it was kinder if you thought we were dead," the man continues. "We love and miss you both more than we can say."

"Oh yes," the mother adds. "So much."

"But we need you now. Earth needs you now." He pauses, grimaces. "What we feared is happening. Eros is heading to Earth. It's… it's on a direct collision course. It needs to be broken up before it gets here, my darlings. Before it can smash into the world and cause untold devastation. The monsignor says you are the only ones left alive up there."

Haumea makes a sound that could be a moan of anger; could be an attempt at a laugh.

"This is your destiny. And it's not just us, your parents, who love you, who you'll be saving. Look."

The library fills with swelling orchestral music. The parents' holos fade and grow transparent, replaced by a sweeping shot of an island, a lush tropical paradise. Sharon gasps. It's as beautiful as the locations where the models on the 2Ds are sent to do their final photo shoots. The island image morphs into an image of a mewling baby animal, its coat striped black and yellow, then segues into a shining silver fish, followed by a close-up of a bright pink flower unfurling its petals.

The music fades away, and the parents' holos solidify. "Do you see?" the father says, sounding more confident now. "You can save all of this. Only you can do it. It's your destiny. Please, contact New Vatican base as soon as you can. They will instruct you on what to do. Destroying Eros is a simple matter and the monsignor has assured me you won't feel a thing. And remember, we love you. We'll always be with you."

The holo flickers. Sharon hears the mother's voice saying: "Was that okay?"

The image cuts out.

After the holo has faded, Sharon looks straight at Pluto. "They're alive."

"Yeah."

Sharon tries to assess how she's feeling. Just numb, really. Maybe slightly nauseous. "They didn't die after all."

"No."

"They sent us here, but didn't die. Did you know?"

"No!" Pluto's eyes, like Sharon's, are now dry.

Sharon doesn't want that orange-skinned woman to be her mother. She wants Tyra. She doesn't want to think about what they've been asked to do. She wishes with all her heart that she hadn't cut her

hair off. If she runs back to the solarium and collects it, maybe she can make it into a weave. Yes. Then things will go back to normal. She turns to leave, but Pluto grabs her arm.

"Sharon. Wait."

"What?"

"I'm sorry." Pluto pulls her into a hug, and Sharon's too surprised to resist. "I'm sorry, Sharon. I'm so, so sorry."

"Ug," Haumea says. Eris and Sedna moan and Makemake lets out an ear-piercing scream.

Pluto lets go of Sharon and whips around to where the retard is screaming behind her. Makemake's hanging by her hair in one of L.O.L.A's pincers. How can they not have heard the bot entering the library? And fuck, there's a syringe in one of L.O.L.A's other protuberances.

"L.O.L.A! Stop!" Pluto cries. The other braindeads are clawing at her chassis and tugging at Makemake's legs but the more they pull, the more intense the screaming becomes. "Stop!" Pluto shouts again, and runs around to the robot's power switch. The capacitors whine their release and she shuts down, the crying girl still dangling from the claw, swinging gently.

Sharon's already pulled a chair over and climbs up onto it, hacking away with those blunt scissors of hers, and at last the girl slumps, crying and shuddering, into her arms.

As Sharon gathers the braindeads together in a corner of the library, Pluto goes to the screen. "Eskombot, why the fuck did L.O.L.A do that?"

*Oodle-pat. Bloot.*

"Can you show me?"

An order flashes up on the screen from the New Vatican: "Euthanise non-essential personnel." Logged the moment she opened the message from her parents. They didn't even wait for an answer before they started. They just assumed.

But the clarity of their task, its decisiveness, is calming. At least this way it will be over soon. They won't be tumbling out here in the darkness forever. How would Pluto have ever been able to run this place by herself anyway? She wouldn't, that's how. At least this way she has the chance to do something right.

A new message indicator throbs on the pane. It's from the New Vatican Cardinal of Security. The instructions are simple: prime the Contingency 7 units in the kernel room and set the levers to arm. Press confirm when ready. "Kindly effect immediately. There is no time to waste," he says. "Your rewards will be added unto you."

Pluto looks across at her sister and the girls. The injured retard is

sitting on the floor in front of Sharon, who's combing her hair and smoothing it down. Two other girls are playing some sort of game with their hands and the round, drooling girl is leaning up against Sharon, her head on her shoulder. For the first time in however long, Pluto looks at her sister properly. She's like St Francis or the Madonna or something.

It's too late for regret, she tells herself. The only reason she's feeling this way is because it's about to end. That's what she's always wanted, isn't it? She peers out of the viewport at the stark composition of grey and black. She watches how the whirling sun paints slow, perfect spirals in the sand.

She pulls up the parents' new holo again. She won't bear to watch it another time, but she stills it at the start, when they show themselves against the backdrop of blue water and sky, the laughing children in the background. Now she remembers; she has seen this before.

She's seven years old. At home. On Earth. It's late at night; her parents are watching holos in the den. She's supposed to be in bed but got up for a wee. She peers into the den. There's a holo of an island in the sun, she can smell the scent-seep from here. Sweet. Flowers, fruit, skin lotions. "Thank you for choosing the Hundred-Atoll Lodge," the holo's saying in an brash voice, "one of the last paradises on Earth. You have made a serene choice to join the privileged few who will not only survive, but will live! Terms and conditions apply. The NADOS one-child policy is strictly enforced at Lodge properties."

She went to bed. She thought it was a movie. She must have dreamed that night that they were all there. She must have held that dream tighter than any reality they'd ever provided her.

She glances across at Sharon, obliviously tending her flock. "Eskombot, can you establish contact with Earth?" Sharon looks up at her, but doesn't move to join her. For once, Pluto can't read her sister's eyes.

*Bloodle-deet.*

She logs in as an administrator. A public directory comes on. She searches the names, places the call.

"Hello?"

"Hello, mu– Hello."

There's a long pause, filled with distance and static and the violent flares of light failing. The picture is blank, grey foam.

"Oh … Plu– oh. Oh, God. Jeremy? Jeremy!"

"I got your message."

Pause. Pause. Paaaause. The man comes on. "Oh, thank heavens. We're so pleased you've received it. We can't tell you how grateful we are. You're heroes, girls. Everything works out for a reason, doesn't

it?"

"It looks beautiful," she says.

A pause. The woman. "Yes. Yes, love. So beautiful. It's the last place on earth, but it's so … it's alive."

The man comes on. "It's quite big, really. There's a chance we can… that we can, one day, rehabilitate the rest."

The woman: "Yes, there's hope. There really is."

"It's a good thing we're here, then," Pluto says.

"Yes, love. You and your sister are our saviours. Just think of that. You'll be at God's right hand. And you'll always be here." Pluto imagines him patting his chest, like he did half her life ago.

"Goodbye, then."

"Go with the Lord," the woman says, and she might be crying. There's a squeaking sound, like an animal chattering. The grey foam on the screen resolves into a patchwork of colours and then goes blank, but not before they hear the woman say, "Not now, sweetie. Wait a–"

"Come, Sharon," Pluto says and starts off towards the kernel room. She's never felt such assurance before, such a sense of right direction as she does now. It almost feels good.

Sharon doesn't move to follow her sister. While she's been comforting the Ugly Pretties, something has been swelling in her chest. Anger. No, fury. And hatred. She knows that Tyra and Nigel would urge her to use these new, unfamiliar emotions in her poses. She can't disappoint them. She gets slowly to her feet. She can feel her newfound inner confidence◦– the very thing Tyra would say she needed to work on◦– blasting out of her pores.

Pluto hesitates at the door. "Sharon? C'mon. Let's go. We don't have long."

"No."

"No?"

"They want us to die so that they can live," Sharon says in a clear, cold voice. Uncertainty creases Pluto's face and a delicious thrill tickles through Sharon's body. She should have stood up to Pluto ages ago. It's way easier and more satisfying than she ever thought it would be. "They lied to us, Pluto. They sent us away so that they could afford to live in that… in that fucking place."

Pluto blinks. "Sharon… We have to stop it. Now come on."

"No."

"I need you, Sharon. I can't do this on my own."

Pluto's face crumples as if she's about to start crying again, but Sharon doesn't feel a jot of pity for her. "No."

Makemake groans in approval. Haumea gurgles.

“Sharon, come on. We don’t have a fucking choice.”

“We do have a choice. It’s like this, Pluto: You can choose to channel your energy to show the world the true inner you. Or you can stay the same and get eliminated.”

“What the fuck are you talking about?”

“They weren’t true to us. They weren’t true to themselves.” Sharon narrows her eyes and straightens her back. Glances at her reflection in the blacked-out screen. She focuses at a point in the imaginary far distance, takes a deep breath and smiles with her eyes. She’s done it! The perfect smize. Tyra was right: sometimes you have to go through bad stuff to find the strength to get it right. “And if you think about it, Pluto, the parents don’t deserve to make the final. They should really be eliminated.”

The Ugly Pretties gather behind her. Haumea gurgles and Makemake claps her hands.

Pluto glances once more at the screen. “But they’re our parents,” she whispers.

“Pluto,” Sharon says. “It’s time to be fierce and make the hard decision.“ Then she spins on her heel and starts striding down the corridor towards the solarium. Even her walk is better. Miss J would be proud.

They pass the time watching old holos and 2Ds and practising makeovers on the Ugly Pretties. Pluto has been surprised by how quickly she’s been sucked into her sister’s addictive distractions. She knew, as soon as Sharon said no, that she was right. It took a few minutes, that’s all, and she threw down her burdens too, renounced her duties. She feels light, unanchored. That’s what freedom must feel like, surely.

As the last hours approach, Pluto helps Sharon strap the Ugly Pretties in their sleeping bays. She watches Sharon tuck the Ugly Pretties in, like a mother should have done. She watches as Sharon combs Makemake’s hair one last time. Makemake gurgles and grunts and bats at Sharon’s hand. “You’re welcome, girlfriend,” Sharon whispers in her ear as she slides the syringe into Makemake’s aorta.

The Ugly Pretties all go quietly. Not even Haumea struggles.

At the viewport, the dust and blue and white face of Earth hurling itself huge across the pane, they call up the messages for one last look. Pluto’s finger slides over the list. The screen is filled with countless messages◦– some pleading, some threatening◦– but none are from the parents. The title of the latest one, from the Pope herself, shouts: “YOU WILL BURN IN HELL!!!!!!”

“Goodbye,” Sharon says, touching the big red X. “You are so not in the running anymore.”

Pluto gets to her knees and puts her face to the floor, sniffs around the edge of the airlock hatch.

“What are you doing?” Sharon asks.

“I thought I felt air coming in from outside. Warm air. It smelt of fruit and flowers.”

“There’s no air on Eros, Pluto.”

Pluto takes a deep breath, lets it out. Takes another. She disarms the hatch locks. “I’m going outside. You coming?”

Sharon looks through the viewport again, the angry visage of Earth slapping against it like a gigantic, malicious moth, and turns to her sister. “Will it hurt?”

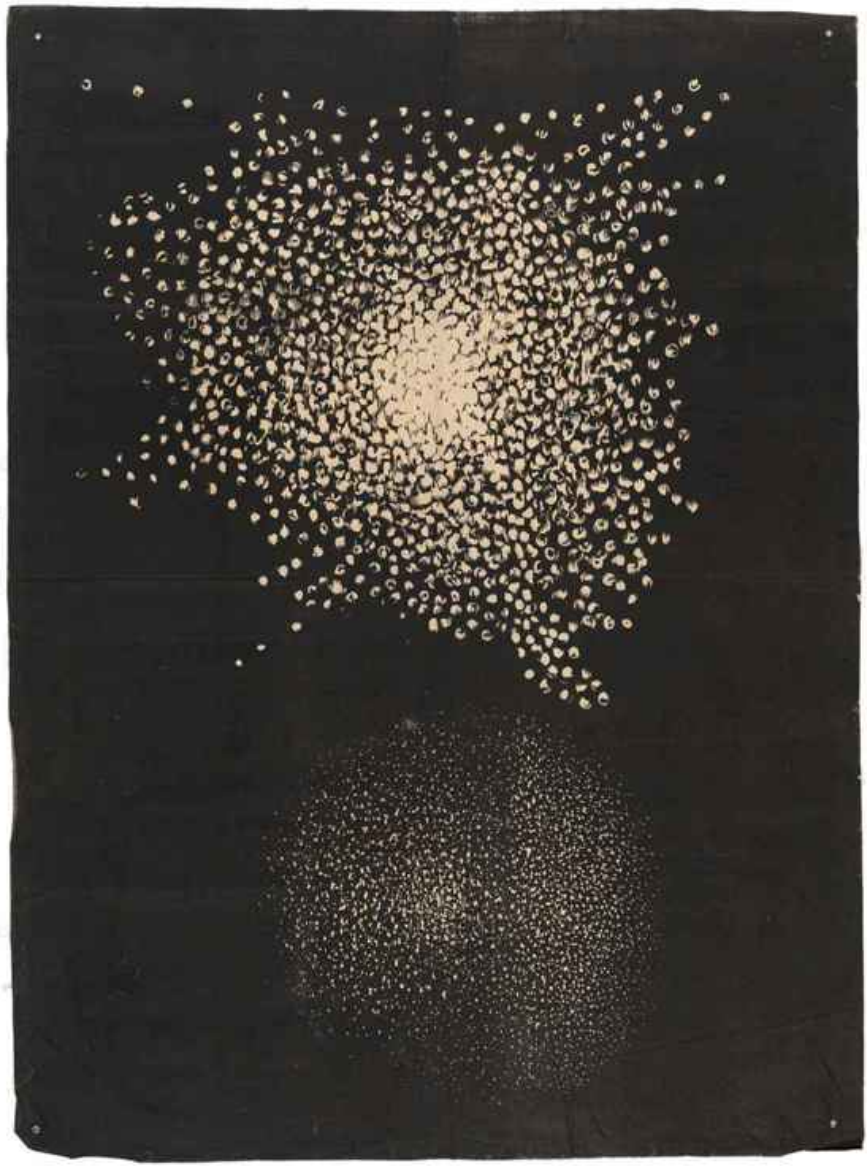
“No. It will be instant. You won’t feel a thing.”

“Not that. I mean, will it hurt the parents? When we hit them?”

“I don’t know.”

Pluto waits for Sharon to join her at the airlock.

“We’ll always be here,” Sharon giggles, tapping her chest. “What a load of fucking dreckitude.”



*She had waited a full turn around the galaxy to come back here. She could wait a couple terrestrial turns more.*

*This is one of nine wall hangings, all on astronomical themes, produced by the Working Men's Educational Union. The Union (founded 1853) was a philanthropic society with the object of "the elevation of the working classes, as regards their physical, intellectual, moral and religious condition". This banner would have been used in one of the Union's many lectures. It depicts two star clusters or nebulae. (c1850)*

# ENYO-ENYO
## KAMERON HURLEY

Enyo meditated at mealtimes within the internod, huffing liquor vapors from a dead comrade's shattered skull. This deep within the satellite, ostensibly safe beneath the puckered skein of the peridium, she went over the lists of the dead.

She recited her own name first.

Enyo's memory was a severed ocular scelera; leaking aqueous humor, slowing losing shape as the satellite she commanded spun back to the beginning. The cargo she carried was unknown to her, a vital piece of knowledge that had escaped the punctured flesh of her memory.

She had named the ship after herself◦– Enyo-Enyo◦– without any hint of irony. The idea that Enyo had any irony left was a riotous laugh even without knowing the satellite's moniker, and her Second, Reeb, amused himself often at her shattering attempt at humor.

After the purging of every crew, Reeb came into Enyo's pulpy green quarters, his long face set in a black, graven expression she had come to call winter, for it came as often as she remembered that season in her childhood.

"Why don't we finish out this turn alone?" he would say. "We can manage the internod ourselves. Besides, they don't make engineers the way they did eight turns ago."

"There's the matter of the prisoner," she would say.

And he would throw up his dark, scarred hands and sigh and say, "Yes, there's the prisoner."

It was Enyo's duty, her vocation, her obsession, to tread down the tongue of the spiraling umbilicus from the internod to the holding pod rotation of the satellite, to tend to the prisoner.

Each time, she greeted the semblance of a body suspended in viscous green fluid with the same incurious moue she had seen Justice wear in propaganda posters during the war. Some part of her wondered if the body would recognize it. If they could talk of those times. But who knew how many turns old it was? Who knew how many other wars it had seen? On a large enough scale, her war was nothing. A few million dead. A system destroyed.

The body's eyes were always closed, its sex indeterminate, its face a morass of dark, thread-like tentacles and fleshy growths. Most sessions, she merely came down and unlocked the feed cabinet, filled a clean syringe with dark fluid, and inserted it into the black fungal sucker fused to the transparent cell. Sometimes, when the body

absorbed the fluid, it would writhe and twist, lost in the ecstasy of fulfillment.

Enyo usually went straight back to the internod to recite her lists of dead, after. But she had been known to linger, to sit at the flat, gurgling drive that kept her charge in permanent stasis.

She had stopped wondering where the body had come from, or who it had been. Her interest was in pondering what it would become when they reached its destination. She lost track of time in these intimate reveries, often. After half a rotation of contemplation, Reeb would do a sweep of the satellite. He would find her alive and intact, and perhaps he would go back to playing screes or fucking one of the engineers or concocting a vile hallucinogen the gelatinous consistency of aloe. They were a pair of two, a crew of three, picking up rim trash and mutilated memories in the seams between the stars during the long night of their orbit around the galactic core.

When they neared the scrap belt called Stile, Enyo was mildly surprised to see the collection of spinning habited asteroids virtually unchanged from the turn before.

"It's time," she told Reeb. "Without more fuel, we won't make it the full turn." And she would not be able to drop off the prisoner.

He gave her his winter look. She had left the last of his engineers on a paltry rock the color of foam some time before. He did not know why they needed the crew now; he did not have her sense of things, of the way time moved here. But he would be lonely. It's why he always agreed to take on another crew, even knowing their fate.

"How many more?" he said.

"This is the last turn," she said. "Then we are finished."

She let Reeb pick the new crew. He launched a self-propelled spore from the outernod well ahead of their arrival on the outskirts of Stile. The dusty ring of settlements within the asteroid belt circled a bloated, dying star. Had it been dying the last time they passed? Enyo could not remember.

Reeb's sister worked among the debris, digging through old spores and satellites, piecing together their innards, selling them as pirated vessels imbued with the spirit of cheap colonial grit.

Enyo had not seen Reeb's sister in many turns, when speaking of the war, of genocide◦– in terms outside the propagandic◦– was still new and unsettling and got them thrown out of establishments. Broodbreeders and creep-cleaners called them void people, diseased, marked for a dry asphyxiation aboard a viral satellite, drifting ever-aimless across limitless space. They were not far wrong. Sometimes Enyo wondered if they really knew who she was.

She heard Reeb's sister slide up the umbilicus into the internod. Heard her hesitate on the threshold, the lubrication of the umbilicus

slick on her skin.

"This your satellite?" Reeb's sister asked.

Enyo had expected to feel nothing at her voice, but like the body in the tank, she was sometimes surprised at what was fed to her. Something in her flared, and darkened, and died. It was this snapshot of Reeb's sister that she always hoped was the true one. The real one. But she knew better.

She swiveled. Reeb's sister did not take up the tubal port as Reeb did, but inhabited it in the loose way the woman inhabited all spaces, wrapping it around herself like a shroud, blurring the edges of her surrounds◦– or perhaps Enyo's eyes were simply going bad again. The satellite changed them out every quarter turn. The woman had once had the body of a dancer, but like all of them, she had atrophied, and though she was naturally thin, it was a thinness borne of hunger and muscle loss. Her eyes were black as Reeb's, but their color was the only feature they shared. She was violet black to Reeb's tawny brown, slight in the hips and shoulders, delicate in the wrists and ankles, light enough, perhaps, to fly.

"Reeb says you need a sentient spore specialist," the woman said.

"Yes, we have one last pickup. I need you to aid in monitoring our spore for the drop. I'm afraid if you do not, the prisoner may escape."

"The prisoner?"

Enyo had forgotten. This woman had not met them yet. She did not know. Something inside of Enyo stirred, something dark and willfully forgotten, like a bad sexual encounter.

"Where are the others?" Enyo asked.

"Aren't you going to ask my name?"

"I already know it," Enyo said.

The day Reeb's sister was born, Enyo had named her "Dysnomia." She had cursed all three of them that day, and perhaps the universe, too. One could never be quite certain.

Nothing had ever been the same after that.

Because she could not go back. Only around.

The sound of the machines was deafening. Enyo stood ankle-deep in peridium salve and organic sludge. Ahead of her, Reeb was screaming. High pitched, squealing, like some broodmeat. But she could not see him.

Then the siren started. A deep seated, body-thumping wail that cut deep into her belly. Now we turn, she thought. This is a very old snapshot.

Ahead of her, a few paces down the dripping corridor, Dax battered her small body against the ancient orbital entryway. Her

tears mixed with sweat and grease and something far more dangerous, deceptive. Florets spiraled up the bare skin of her arms from wrist to elbow.

Enyo raised the fist of her weapon and called the girl back, “Don’t go down there! Not there! The colonists are this way.”

“I’m not leaving them!” Dax sobbed. Her white teeth looked brilliant in the darkness. What animal had she harvested them from? “I know what you did! I know you started this. You set this all in motion.”

Enyo admitted that she had not expected it would be Dax who went back. Her memories were not always trustworthy.

The satellite took a snapshot.

Reeb’s tastes were predictable in their disparity. He brought up his new crew to meet with Enyo in the internod. The first: a pale, freckled girl of a pilot whose yellow hair was startling in the ambient green glow of the dermal tissue of the room. Enyo could not remember the last time she’d seen yellow hair. The war, maybe. The girl carried no weapons, but her hands were lean and supple, and reminded Enyo of Reeb’s hands when he was in his sixties: strong, deft, capable. Not what he was now, no, but what he would *become*.

The other crewmember was a mercenary: a tall, long-limbed woman as dark as the girl was light. Her head was shaved bald. She wore a silver circlet above her ears, and half of her left ear was missing. She carried a charged weapon at either hip, and a converted organic slaying stick across her back. She smelled of blood and metal.

“Do they have names?” Enyo asked Reeb.

“Dax Alhamin,” the little pilot said, holding out her hand. It was a rude affectation picked up by many of the young, to touch when first meeting. They did not remember how the war had started, with a nit-infected warmonger who murdered superpod after superpod of colonists with a single kiss. Or perhaps they had simply forgotten. Enyo was never sure what side of the curtain she was on. The satellite distorted the universe at its leisure, often at her expense.

The other one, the mercenary, laughed at the open hand the girl proffered and said, “I’m Arso Tohl. I heard you have cargo that needs… liberating.”

Dax pulled her hand back in. She was smiling broadly. Her teeth were too white to be real. Even if she was the twenty years she looked, no real person had teeth like that◦– not even a rim world god. Not even a warmonger.

“It’s necessary,” Enyo said. “We need to get back to the beginning.”

“The beginning?” Dax said. “Where did you come from?”

“It doesn’t matter where we came from,” Reeb said. “Nor where we’re going. That’s not how a satellite like this works.”

“I think I’ve heard of this satellite,” Arso said. “Some prototype from the Sol system, isn’t it? You’re a long way from home. You were already old news when I was growing up.”

Enyo closed her eyes. She ran through her litany of dead. At the end, she added two new names:

*Arso Tohl* and *Dax Alhamin*.

She opened her eyes. “Let’s tell them how it works, Reeb,” she said.

“Enyo-Enyo makes her own fate,” Reeb said. “Her fate is ours, too. We can alter that fate, but only if we act quickly. Enyo guides that fate. Now you’re part of it.”

Arso snorted. “If that’s so, you better hope this woman makes good decisions, then, huh?”

Reeb shrugged. “I gave up on hoping that many cycles ago.”

“All that we are is sacrifice,” Enyo’s first squad captain told her. “Sacrifice to our countries. To our children. To ourselves. Our futures. We cannot hope to aspire to be more than that.”

“But what if I am more than that?” Enyo said. Even then, she was arrogant. Too arrogant to let a slight go uncommented upon.

Her squad captain smiled; a bitter rictus, shiny metal teeth embedded in a slick green jaw grown just for her. The skin grafting hadn’t taken. Enyo suspected it was because the captain neglected the daily applications of salve. People would take her more seriously, with a jaw like that.

“I know what you did, Enyo,” her squad captain said. “I know who you are. This is how we met out justice on the Venta Vera Arm, to war criminals.”

The captain shot her. It was the first time Enyo died.

As Enyo gazed up from the cold, slimy floor of the carrier, her blood steaming in the alien air, her captain leaned over her. The metal teeth clicked. Close enough to kiss.

The squad commander said, “That is how much a body is worth. One makes no more difference than any other. Even the body of the woman who started the war.”

As her life bled out, Enyo’s heart stopped. But not before Enyo reached up and ate half her captain’s spongy artificial jaw.

Enyo secured her comrade’s skull in the jellied dampener beside her. All around her, the spore trembled and surged against its restraints. Reeb had created it just an hour before and clocked in the elliptical path it must take to get them to the rocky little exoplanet

where the cargo waited. The spore was ravenous and anxious. Dysmonia already lay immersed at the far end of the spore. She looked beautiful. Peaceful.

Dax eased herself back into her own jellied dampener. Torso submerged, she remained sitting up a moment longer, cool eyes wide and finally, for the first time, fearful.

"Whose skull is that?" Dax asked.

Enyo patted the dampener. "Yours," she said.

Dax snorted. "Whole bloody lot of you is mad."

"Yes," Enyo said.

Arso pushed through the still-slimy exterior of the spore and into the core where they sat. She spit a glob of the exterior mush onto the floor, which absorbed it hungrily.

"You sure there's no one on that rock?" Arso said.

"Just the abandoned colonists," Reeb murmured from the internod. The vibrations tickled Enyo's ears. The tiny, threadlike strands tucked in their ear canals were linked for as long as the living tissue could survive on their blood.

"It was simply bad timing on their part," Reeb said. "The forming project that would have made Tuatara habitable was suspended when they were just a few rotations away. They were abandoned. No one to welcome them."

"No one but us," Enyo said, and patted the skull beside her. For a long moment, she thought to eat it. But there would be time for that later.

"Foul business," Arso said.

Enyo unloaded the green fist of her weapon from the gilled compartment above her. It molded itself neatly to her arm, a glittering green sheath of death.

"You have no idea," Enyo said.

Enyo screamed and screamed, but the baby would not come. The rimwarder "midwife" she'd hired was young, prone to madness. The girl burst from the closet Enyo called home three hours into the birthing. Now Enyo lay in a bed soaked with her own perspiration and filth. The air was hot, humid. Above her screams, she heard the distant sound of people working in the ventilation tube.

So it was Enyo who took her own hand. Who calmed her own nerves, who coached her own belabored breath. Enyo. Just Enyo. Why was it always the same, every turn? Why was she always alone, in this moment, but never the others?

She pushed. She screamed herself hoarse. Her body seemed to tear in two. Somewhere far away, in some other life, in some other snapshot, she was dimly aware of this moment, as if it were

happening to some character in an opera.

The death-dealers banged on the door and then melted it open. They saw she was simply birthing a child alone… so they left her. Sealed the room behind her. Like most rim filth, they hoped she would die there in child bed and spare them the trouble. They could come back and collect her dead flesh for resale later.

Enyo grit her teeth and pushed.

The baby came. One moment, just Enyo. The next… a squalling, writhing mass no more sentient in that moment than a programmable replicator, but hers nonetheless. A tawny brown child with her own black eyes..

“Reeb,” she said.

She reached toward him. Her whole body trembled.

The second child was smaller, too thin. This was the one she would give away. The one who would pay her way to the stars.

This one she called Dysmonia.

Enyo voided the body for delivery. Capped all the tubes. A full turn about the galaxy in transit for a single delivery. A single body. Back to the beginning. How many times she had done this, she wasn’t certain. The satellite, Enyo-Enyo, revealed nothing. Only told her when it was hungry. And when it was time to station itself, once again, on its place of origin.

She pushed the body’s pod over and it floated beside her, light as a moth’s wing. She placed her fingers on top of the pod and guided it down into the cargo bay. The body stirred gently.

The interior of Enyo-Enyo was mostly dark. Motionless. Not a sound. They were the last of the living on Enyo-Enyo, this turn. They usually were. The satellite was hungry. Always so hungry. Like the war.

At the airlock, she stopped to bundle up. Stiff boots, gloves, parka, respirator. The air here was breathable, Enyo-Enyo told her, but thin and toxic if exposed for long periods. She queued up the first phase of the release and waited for pressurization.

The vibrating door became transparent; blistering white light pushed away the darkness of the interior.

Ahead of her: a snow-swept platform. In the distance, a cavernous ruin of a mountain pockmarked with old munitions scars. A sea of frozen fog stretched from the platform to the mountain. As she watched, a thin, webbed bridge materialized between the mountain and the platform.

She waited. She had waited a full turn around the galaxy to come back here. She could wait a couple terrestrial turns more.

The moisture of her breath began to freeze on the outer edges of

her respirator. It reminded her of the first time she had come to Eris.

Bodies littered the field, and Enyo moved among them, cloaked in clouds of blood-rain. The nits she had infected herself with collected the blood spilled around her and created a shimmering vortex of effluvia that, in turn, devoured all it touched.

"You must not fight her," the field commander shrieked, and Enyo knew some of the fear came from the waves of methane melting all around them as the frozen surface of Eris convulsed. "You must not stop her. She is small now. You must leave her alone, and she will stay small. If you fight her she will swell in size and grow large. She will be unstoppable."

But they fought her. They always fought her.

When she took the field, she flayed them of their fleshy spray-on suits and left them to freeze solid before they could asphyxiate, flailing in sublime methane.

There had to be sacrifices.

As she stood over the field commander, making long rents in her suit, the commander said, "If it's a war your people want, it's a war they'll get."

When it was over, Enyo gazed up at the thorny silhouette of the colonial superpod that the squad had tried to protect. Most of the Sol colonists started out here, from Eris. She would need the superpod, later, or she could never be here, now. Sometimes one had to start a war just to survive to the next turn.

Enyo crawled up into the sickening tissue of the superpod. She found the cortex without much trouble. The complicated bits of genetic code that went into programming the superpod should have been beyond her, but she had ingested coordinates from her squad commander's jaw, during some long-distant snapshot of her life that the satellite had created. Now the coordinates were a part of her, like her fingernails or eyelashes.

She kissed the cortex and programmed the ship's destination.

Tuatara.

Reeb worked on one of the harvester ships that circled the Rim every four cycles. Enyo was twenty, and he was eighty two, he said. He said he had met her before. She said she didn't remember, but that was a lie. What she wanted to say was, "I remember giving birth to you," but that, too, was a lie. The difference between memory and premonition depended largely on where one was standing. At twenty, on the Mushta Mura Arm, her "memories" were merely ghosts, visions, brain effluvia.

When she fucked Reeb in her twenty-year-old skin, it was with

the urgency of a woman who understood time. Understood that there was never enough of it. Understood that this moment, now, was all of it. The end and the beginning. Distorted.

She said his name when she came. Said his name and wept for some nameless reason; some premonition, some memory. Wept for what it all had been and would become.

"The satellite is a prototype," the recruiter said. The emblem on her uniform looked familiar. A red double circle shot through with a blue dart.

They walked along a broad, transparent corridor that gave them a sweeping view of the marbled surface of Eris. Centuries of sculpting had done little to improve its features, though the burning brand in the sky that had once been its moon, Dysmonia, made the surface a bearable -20 degrees Celsius during what passed for summer, and unaided breathing was often possible, if not always recommended. The methane seas had long since been tapped, leaving behind a stark, mottled surface of rocky protuberances shot through with the heads of methane wells. Beyond the domed spokes of the research hub's many arms, the only living thing out there was the hulking mop of the satellite. Enyo thought it looked like a spiky, pulsing crustacean.

"A prototype of what, exactly?" she asked. Her debriefing on Io had been remarkably brief.

"There's much to know about it," the recruiter said. "We won't send you out until you've bonded with it, of course. That's our worry. That it won't take. But… there is an indication that you and the satellite are genetically and temperamentally matched. It's quite fortunate."

Enyo wasn't sure she believed in fortune or coincidence, but the job paid well, and it was only a matter of time before people found out who she was. The satellite offered escape. Redemption. "Sure, but what is it?"

"A self-repairing◦– and self-replicating, if need be◦– vehicle for exploring the galactic rim. It will take snapshots◦– exact replicas◦– of specified quadrants as you pass, and store them aboard for future generations to act out. Most of that is automated, but it will need a companion. We have had some unfortunate incidents of madness, when constructs like these are cast off alone. It's been grown from… well, from some of the most interesting organic specimens we've found in our exploration of the near-systems."

"It's alien, then?"

"Partially. Some of it's terrestrial. Just enough of it."

"It's illegal to go mixing alien stuff with ours, isn't it?"

The recruiter smiled. "Not on Eris."

“Why Eris? Why not Sedna, or a neighboring system?”

“The concentrated methane that will give you much of your initial inertia comes from Eris. The edge of the Sol system is close enough for us to gain access to local system resources at a low cost, but far enough away to◦– well, it’s far enough away to keep the rest of the world safe.”

“Safe from what?”

“There’s a danger, Enyo. A danger of what you could… bring back. Or perhaps what you could become.”

Enyo regarded the spiky satellite. “You should have hired some techhead, then.” She was not afraid of the alien thing, not then, but the recruiter made her anxious. There was something very familiar about her teeth.

“You came highly recommended,” the recruiter said.

“You mean I’m highly expendable.”

They came to the end of the long spoke, and stepped into the transparent bubble of the airlock that sat outside the pulsing satellite.

“The war is over,” the recruiter said, “but there were many casualties. We make do with what we have.”

“It’s breathing, isn’t it?” Enyo said.

“Methane, mostly,” the recruiter said.

“And out there?”

“It goes into hibernation. It will need less. But our initial probes along the galactic rim have indicated that methane is as abundant there as here. We’ll go into more detail on the mechanics of its care and feeding.”

“Feeding?” Enyo said.

“Oh yes,” the recruiter said. She pressed her dark hand to the transparent screen. Her eyes were big, the pupils too large, like all the techs who had grown up on Eris. “You’ll need to feed it. At least a few hundred kilos of organic matter a turn.”

Enyo gazed up at the hulk of the thing. “And where exactly am I going to get organic matter as we orbit the far arms of the galaxy?”

“I’m sure you’ll think of something,” the recruiter said. She withdrew her hand, and flashed her teeth again. “We chose you because we knew you could make those kinds of decisions without regret. The way you did during the war. And long before it.”

Enyo sliced open the slick surface of the superpod with her weapon. There was no rush of Tuataran atmosphere, no crumpling or wrinkling about the wound. No, the peridium had already been breached somewhere else. Arso and Dax hung back, bickering over some slight. Enyo wondered if they had known one another before Reeb picked them up. They had, hadn’t they? The way she had known

Arso. The snapshot of Arso. Some other life. Some other decision.

Inside, the superpod's bioluminescent tubal corridors still glowed a faint blue-green, just enough light for Enyo to avoid stepping on the wizened body of some unfortunate maintenance officer.

"Don't you need direction?" Reeb tickled her ear. But she already knew where the colonists were. She knew because she had placed them there herself, turns and turns ago.

Enyo crawled up through the sticky corridors, cutting through pressurized areas of the superpod, going around others. Finally, she reached the coded spiral of the saferoom that held the colonists. She gestured to Arso.

"Open it," she said.

Arso snorted. "It's a coded door."

"Yes. It's coded for you. Open it."

"I don't understand."

"It's why you're here. Open it."

"I–"

Enyo lifted her weapon. "Should Enyo make you?"

Arso held up her hands. "Fine. No harm. Fucking dizzy core you've got, woman."

Arso placed her hand against the slimy doorway. The coating on the door fused with her spray-on suit. Pressurized. Enyo heard the soft intake of Arso's breath as the outer seal of the safe room tasted her blood.

The door went transparent.

Arso yanked away her hand.

Enyo walked through the transparent film and into the pressurized safe room. Ring after ring of personal pods lined the room, suffused in a blue glow. Hundreds? Thousands.

She glanced back at Dax. Both she and Arso were surveying the cargo. Dax's little mouth was open. Enyo realized who she reminded her of, then. The recruiter. The one with the teeth.

Enyo shot them both. They died quickly, without comment.

Then she walked to the first pod she saw. She tore away the head of her own suit and tossed it to the floor. She peered into the colonist's puckered face, and she thought of the prisoner.

Enyo bit the umbilicus that linked the pod to the main life system, the same core system responsible for renewing and replenishing the fluids that sustained these hibernating bodies.

The virus in her saliva infected the umbilicus. In a few hours, everything in here would be liquid jelly. Easily digestible for a satellite seeking to make its last turn.

As Reeb cursed in her ear, she walked the long line of pods, back and back and back, until she found two familiar names. Arso Tohl.

Dax Alhamin. Their pods were side by side. Their faces perfectly pinched. Dax looked younger, and perhaps she was, in this snapshot. Arso was still formidable. Enyo pressed her fingers to the transparent face of the pod. She wanted to kiss them. But they would be dead of her kiss soon enough.

Dead for a second time. Or perhaps a fifth, a fiftieth, a five hundredth. She didn't know. She didn't want to know.

It's why she piloted Enyo-Enyo.

The woman waiting on the other side of the icy bridge was not one Enyo recognized, which did not happen often. As she guided the prisoner's pod to the woman's feet, she wondered how long it had been, this turn. How long since the last?

"What do you have for us?" the woman asked.

"Eris is very different," Enyo said.

The woman turned her long brown face to the sky and frowned. "I suppose it must seem that way to you. It's been like this for centuries."

"No more methane?"

"Those wells went dry five hundred years ago." The woman knit her brows. "You were around this way long before that happened. You must remember Eris like this."

"Was I? I must have forgotten."

"So what is it this time?" the woman said. "We're siphoning off the satellite's snapshots now."

"I brought you the prisoner," Enyo said.

"What prisoner?"

"The prisoner," Enyo said, because as she patted the prisoner's pod something in her memory ruptured. There was something important she knew. "The prisoner who started the war."

"What war?" the woman said.

"*The* war," Enyo said.

The woman wiped away the snow on the face of the pod, and frowned. "Is this some kind of joke?" she said.

"I brought her back," Enyo said.

The woman jabbed Enyo in the chest. "Get back in the fucking satellite," she said. "And do your fucking job."

Back to the beginning. Around and around.

Enyo wasn't sure how it happened, the first time. She was standing outside the escape pod, a bulbous, nasty little thing that made up the core of the internode. It seemed an odd place for it. Why put the escape pod at the center of the satellite? But that's where the thing decided to grow it. And so that's where it was.

She stood there as the satellite took its first snapshot of the quadrant they moved through. And something shifted. Some core part of her. That's when the memories started. The memories of the other pieces. The snapshots.

That's when she realized what Enyo-Enyo really was.

Enyo stepped up into the escape pod. She sealed it shut. Her breathing was heavy. She closed her eyes. She had to go home, now, before it broke her into more pieces. Before it reminded her of what she was. War criminal. Flesh dealer. Monster.

As she sealed the escape pod and began drowning in life-sustaining fluid, she realized it was not meant for her escape. Enyo-Enyo had placed it there for another purpose.

The satellite took a snapshot.

And there, on the other side of the fluid-filled pod, she saw her own face.

The squalling children were imperfect, like Enyo. She had already sold Reeb to some infertile young diplomatic aid's broker in the flesh pits for a paltry sum. It was not enough to get her off the shit asteroid at the ass end of the Mushta Mura arm. She would die out here of some green plague, some white dust contagion. The death dealers would string her up and sell her parts. She'd be nothing. All this pain and anguish, for nothing.

Later, she could not recall how she found the place. Whispered rumors. A mangled transmission. She found herself walking into a chemically scrubbed medical office, like some place you'd go to have an industrial part grafted on for growing. The logo on the spiral of the door, and the coats of the staff, was a double circle shot through with a blue dart.

"I heard you're not looking for eggs or embryos," she said, and set Dysmonia's swaddled little body on the counter.

The receptionist smiled. White, white teeth. He blinked, and a woman came up from the back. She was a tall brown-skinned woman with large hands and a grim face.

"I'm Arso Tohl," the woman said. "Let's have a look."

They paid Enyo enough to leave not just the asteroid, but the Mushta Mura arm entirely. She fled with a hot bundle of currency instead of a squalling, temperamental child. When she entered the armed forces outside the Sol system, she did so because it was the furthest arm of the galaxy from her own. When a neighboring system paid her to start a war, she did so gladly.

She did not expect to see or hear from the butchers again.

Not until she saw the logo on the satellite recruiter's uniform.

Enyo ate her fill of the jellified colonists and slogged back to the satellite to feed it, to feed Enyo-Enyo. Reeb's annoying voice had grown silent. He always stopped protesting after the first dozen.

She found him sitting in the internode with the prisoner, his hands pressed against the base of the pod. His head was lowered.

"It was enough to make the next turn," Enyo said.

"It always is," he said.

"There will be other crews," she said.

"I know."

"Then why are you melancholy?" If she could see his face, it would be winter.

He raised his head. Stared at the semblance of a body floating in the viscous fluid. "I'm not really here, am I?"

"This turn? I don't know. Sometimes you are. Sometimes you aren't. It depends on how many snapshots Enyo-Enyo has taken this turn. And how she wants it all to turn out this time."

"When did you put yourself in here?" He patted the prisoner's pod.

"When things got too complicated to bear," she said. "When I realized who Enyo-Enyo was." She went to the slick feeding console. She vomited the condensed protein stew of the colonists into the receptacle. When it was over, she fell back, exhausted.

"Let's play screes," she said. "Before the next snapshot. We might be different people, then."

"We can only hope," Reeb said, and pulled his hands away from the prisoner.

# THE COMET'S TALE
## MATT JONES

No one had heard of our dumb ass town before the comet came. Afterwards, the whole world knew the name Meridian. Those of us who called it home would come to wish they hadn't, and no one more than me.

They say Meridian is the sixth biggest city in Mississippi, but before you go getting all impressed, take a look at the competition. Exactly. If you ask me, calling Meridian a city is giving it airs and graces it has no business putting on. Main Street may boast a dozen stores, but the smaller streets that run parallel to it and the railway track have never filled all their plots. There's a movie theater, a library and a lot of bars, none that a woman with half her senses would venture in alone. There's the stone Municipal Building that must've been built in a grander age. Opposite that is a prefab office where Meridian's six Democrats eat pizza and talk about how they're gonna bring Reagan down.

But for a couple of weeks, during an otherwise uneventful spring in '86, Meridian was packed with reporters and cameramen, and you couldn't get a room at the motel or even rent a spare bedroom, not for love nor money. And everyone was talking about the comet and the thirty-six people that lost their lives on account of it. One of the dead was Jordan Danes. I don't think I'll ever love anyone as much as I loved him.

He was seventeen when he died, two years older than me. He'd been held back twice, so we could've shared some classes but we didn't. He'd been in so much trouble that half the teachers wouldn't have him in their class. As far as I could make out, he did double Shop and not a lot else◦– not that I had memorized his whole schedule or nothing.

Jordan would disappear from school for weeks, there were always talk as to why◦– mostly people decided that he was in juvenile detention or had overdosed. People were always talking about Jordan Danes. I'd never spoken a single word to him, although I'd imagined whole conversations, so you can guess how relieved I was when he'd show up, I guess just to prove to the world that he wasn't dead or in jail.

He'd done another of his disappearing acts that winter. I hadn't seen him for a couple of months until I spied him on Main Street with the flying saucer people, looking a little sheepish and holding a placard that said "THE ASCENSION IS NEAR".

Just seeing him made my stomach drop like a bowling ball. You're wondering if I'm a fag, right? I'm gay. There. I said it. I don't go around telling folk, obviously. Meridian isn't New York City. There was a guy working at the movie theatre. He let slip to his boss that he was moving in with his boyfriend and got fired on the spot. Two days later someone painted "AIDS SCUM" on his door. Last I heard he was making a living as a female impersonator down in New Orleans.

So, no, I don't go around telling folk.

Jordan saw me coming and surprised me by calling out my name. I had no idea he knew who I was, or that I'd made the tiniest impression on his life. I acted all nonchalant, told him I hadn't seen him in school, but all the while I was sneaking looks at him, just soaking him up.

"They made it clear that I wasn't welcome," he said. "Some shit went missing from the A/V closet," he shrugged, and looked away with what might have been regret.

Jordan was mixed-race◦– black, white and maybe something else, something exotic like South American or Egyptian. Tall and lean, but shy of lanky. His skin was the color of caramel and flawless, his hair was black and curly, but loose, like it didn't have the will to wind itself up into an Afro, and so it hung down to his shoulders in corkscrew curls. He was beautiful alright, big brown doe eyes and sculpted lips, the lower one a pale rose pink. Beautiful and troubled boys◦– I still got no defense against them.

"You gonna come or what?" he asked.

I blushed, thinking he had caught me looking at him, before I realized he was holding out a leaflet.

"Huh?" It was cheaply printed, black ink on blue paper. There was a photograph of a flying saucer. Not a real one obviously. I'm not a total dick. It was from one of those 1950s films, that always look like the color's been turned up too high, and where the sexy space aliens look like those women from the B-52s.

The leaflet read "PREPARE TO ASCEND". It told me that there was a meeting tonight for anyone who was ready for "the trip of lifetime".

"Are you gonna be there?" I asked, before kicking myself for how desperate that made me sound.

Jordan chuckled, and for a second I was sure he'd seen straight through me, then he looked a little sad and shrugged.

"It ain't like I've anyplace else to be," he said.

"How dumb are you?" My father yelled and waved the leaflet in my face. "Those folk are as crazy as snakes and twice as dangerous."

Well, at least now I knew for sure that he was going through my

things. I wouldn't be hanging my jacket in the hall again anytime soon.

"Are you done?" I said, recklessly.

"No, I am not done. I will tell you when I am done. And get your hand off your hip," he said and slapped my arm loose, "What kind of boy are you?"

"Tom!" My mom interjected.

I felt hot shame sting my face. Shame for what my father thought of me, and for my mother's need to protect me from it. I stalked off to my room not saying another word, and laid low for a couple of hours.

My father and I hadn't seen eye to eye since, well, since I could walk and talk. You don't have to wear gold eye shadow for your Pa to know you're never gonna be a quarterback. And as much as I act like I don't give a twirly fuck what he thinks about me, it ain't always easy to live with that look of disappointment on your father's face.

I waited til I heard the opening music to "Highway to Heaven", the only TV show my Pa said was worth giving the time of day and snuck out the front door with my sneakers in my hands.

The meeting was in an old plantation house on the outskirts of town. It'd been converted into a luxury holiday home◦– the Flying Saucer People were clearly living in style. I rode out on my bike, abandoning it amongst the wisteria that hung from the trees and veranda. The sun had only just set and the front yard was still warm and full of the noise of crickets and the heavy sweet scent of gardenia. There was the sound of a party coming from the back yard and I followed the veranda around. There were forty or fifty there, more than I had thought, but they were exactly the kind of oddballs, lonely and lost you'd expect.

Jordan was in charge of a small trestle table of refreshments. He'd tied his curls back into a ponytail, and was wearing dungarees that made him look like he was what my grandma would've called "slow". For a horrible moment, he looked like he belonged among the all the other sideshow freaks of Meridian life.

Then he caught sight of me, grinned and waved me over. His smile lit me up like a toy turned on for the first time◦– blazing into action, lights flashing, motor whirring. My heart pounded. A bead of cold sweat was making its way down past the small of my back by the time I got over to him.

"Hey," he said.

"Hay's for horses, ass-bite," I squeaked in a high voice I didn't recognize. Could I have sounded more like a moron?

"They got me serving juice," he said, and then lent in conspiratorially, "but I can modify yours."

He tugged a flask of whiskey from the inside of his pants.

"I'm good," I said and took a sip of juice. My folks don't allow alcohol in the house and the unpopular girls I hang out with don't go near it. Hooch ain't so big in Bible Study. While I was pretty sure I wouldn't go crazy after one glass, uninhibited was the last thing I could risk feeling around Jordan Danes.

Someone called the meeting to a start. Jordan touched my arm as he guided me over towards a makeshift stage in the back yard, where a well-dressed couple was preparing to address the human detritus. The warmth of his hand left an impression long after it was gone. I could feel the memory of his fingertips against my skin.

Carlton Ray and his wife didn't look like UFO freaks, more like TV evangelists, but they sure knew how to work a crowd. He was maybe fifty, with broad shoulders and a wry smile that somehow made you feel he knew what you were thinking. His wife was an off the shelf Southern Belle, with a huge, immobile hairdo and shoulder pads that made her as broad as her husband. She glowed with confidence and a salon tan.

"You may be wondering why you're here," Carlton Ray announced to the weirdoes, who inched forward, anxious for the answer. "Well I ain't gonna make your life easy for you and tell you. I want you to search deep inside yourself for the answer to that question. Why aren't you out in the world◦– living, loving, succeeding? Why is it you feel you fit no place at all?"

Carlton turned his attention to me, "you got an answer for me, son?"

I was so surprised by him addressing me directly I froze and looked away.

"You think you're out of step with the world? Well I'm here to tell you that you're wrong, it's the *world* that's lost its footing and lost its way. The solution is not in the size of your paycheck or the car you drive. A few of you are wise souls, sensitive enough to know this◦– and *that* is why you're here.

"What can we do? How do we turn back the tide and get the human race back on course? I have bad news for you. We can't. There is no hope for them. They have de-evolved into selfishness and selfism.

"But there is help for *us*. You are here because you are still on the true path. You are still evolving. I have good news. Those of us still alive to generosity of spirit, those of us desiring a simple, unselfish connection to another person have a way out."

He looked to the heavens. "Above us a comet is heading towards the Earth. A thousand tons of stone, a three hundred mile cloud of dust and ice in its wake. Zooming past the Earth to be flung around

the sun and back out into the farthest recesses of the solar system. But hidden in the comet's tail is our way out. A space ship is there, avoiding detection from NASA and the CIA. Slipping into the solar system without any scientist or politician being any the wiser. As I speak to you, Zedekiah is piloting his ship, dodging the chunks of rock and glaciers of ice that break away from the comet. He's travelled light years. He's coming. He's coming for us."

I had to stop myself from laughing. The idea of a spaceman playing Asteroids in a comet's tail was so much bullshit. I smirked and turned to Jordan to make a joke, expecting to see my expression reflected on his face, but he was staring at the night sky, tears in the corners of his perfect brown eyes.

Afterwards, we retreated to a peeling white swing chair on the veranda, which creaked ominously beneath our weight. I leant forward and blocked Jordan from view as he rolled a joint on the sly. He palmed it like a conjurer when Carlton and his wife came over, and winked conspiratorially at me.

"Evening Jordan, I see you've found yourself a friend."

Jordan introduced me and I shook Carlton's large, warm hand. He had a grip like a vice.

"Good to meet you son," he said, and looked me right in the eye, "Are you ready for the ascension?"

"No sir."

"Oh, and why is that?"

"Well to start with, Halley's Comet may travel at one hundred and fifty thousand miles per hour, but it still takes seventy-six years to orbit the sun. Your friend Zebedee is going be very old or very dead by the time he gets here."

Carlton just laughed. "Well, we have a real live wire here, don't we?"

"Just saying," I shrugged ungraciously.

Carlton ruffled my hair like I was a Shih Tzu. "Well you don't seem to find any hardship fitting in on Planet Earth, no need for Jordan here to save you a place next to him on Zedekiah's ship."

"No sir," I said, feeling an inexplicable pang of loss. If there was a seat next to Jordan, I wanted to be sitting in it, even if it and the flying saucer it were attached to were so much baloney.

Carlton's wife was staring at me with none of her husband's bonhomie. "Your folks know where you are, son?" she asked, scrutinizing me. She didn't wait for an answer but instead turned to Carlton, not bothering to lower her voice.

"He's underage. We don't need that kind of trouble."

Before Carlton Ray could respond, a woman rushed into the

garden, dragging two bewildered kids in her wake. She charged up to an apple-shaped loser with a comb over who'd been busy chatting up a middle-aged woman with saggy breasts and a disappointed frown.

"Randall!" The new arrival yelled. "Randall, look at me, I'm talking to you." The man with the comb over didn't even turn to her, like he was stone deaf.

The angry woman had dyed blonde hair that hadn't been done in a good while. There were dark circles under her eyes.

"You emptied the checking account. How am I supposed to pay the rent? How am I supposed to put a roof over our children's heads? You tell me that?"

Randall was putting on a great show of being invisible, but the way he stiffened up told anyone looking that he knew she was there alright.

"Look at me! Will you look at me? I'm standing right beside you!"

Carlton Ray and his wife made a beeline for the woman. She got so agitated on seeing them that the frowning woman had to restrain her.

"You stole all our money!" Randall's wife screamed at Carlton Ray.

If he was surprised in the slightest by her accusation he didn't show it.

"How am I supposed to feed my kids?" The anger went out of her. She staggered and almost fell, sobbing hopelessly.

I felt just dreadful for her. I turned to Jordan. He wasn't paying the scene any attention, but it was taking some effort.

"Happens a lot," he said eventually and lit the doobie. He took a toke and exhaled discreetly into the darkness.

"You really believe you're gonna go hitch a ride on a meteor and go bouncing around the satellites?"

He shrugged, "Stranger things have happened."

When? I thought but didn't say. "What do your folks think about it?"

"Not a lot. They left."

"What do you mean, 'left'?"

He took another long, sorrowful toke on the joint. "I came home. I'd been away a few days. They'd moved out of the trailer. Handed back the keys. No address. No note. Nothing."

Jordon had been living at the plantation house for a few weeks. He had a tiny room up in the eaves that had once been a child's. Jordon was so tall he had to crook his neck to walk from the door to the bed. The peeling wallpaper of trains and airplanes made him look younger and vulnerable, and reminded me that he didn't have a home

no more. I wanted to put my arm around him. I wanted it more than I'd wanted anything in my life.

I was already crazy late; if my folks had looked in on me and found me missing, there'd be an All Points Bulletin out by now, but somehow I couldn't leave. I was paralyzed by lust, pure and simple. I knew I was going to sit there until Jordan or someone else threw me out.

Jordan was really stoned, sweaty, singing along to records of English bands I'd never heard of. He stripped down to his shorts. His torso was long and slim and perfect– tight pecs and a hard ridge of abdominal muscles. A line of fuzzy black hair escaped the front of his shorts, ran up to his belly button and made my throat dry.

He caught me looking at him.

"What are you up to?" he said, and I couldn't tell if he was amused or not.

"Nothing!"

"You like girls?"

"Course," I lied.

"Yeah? What you like 'bout 'em?"

"What do you mean 'What do I like about them?' Like physically?"

He sat down on the bed next to me. His bare knee touched my jeans.

"Yes, like physically. What you like?"

"Er, I like girls'… asses, I guess."

"Do you indeed?"

"I do."

"What do you like about girls' asses, little boy?"

"Well I guess I like 'em because they're… round."

Jordan looked at me right in the eye, and then he burst out laughing. He was laughing all over.

"You're a caution, boy!" He said, "and as cute as puppies."

I sat there feeling exposed, confused, hopeful and covering the rock hard boner tenting in my pants.

I replayed that night in my head a million times. What did he mean by "cute"? Like a little kid? Or maybe, just maybe, cute like, you know, he *liked* me.

After that night I spent all my free time at the plantation house, or the "Departure Lounge" as Carlton Ray had grandly renamed it. I told my folks I was doing an extra credit assignment on the history of Meridian. I stopped by the library everyday and swapped unread books to leave around the house to throw my Pa off the scent. He was barely speaking to me. Truth was he could hardly bear to look at me.

Not that I cared. All that mattered was Jordan and the evenings I spent in his tiny room.

Three days before the comet was due, Jordan was lying next to me on his single bed.

"What are you gonna do after I'm gone?" he asked.

I had spent ten minutes maneuvering my arm so it could flop casually over his. I ran my fingers along his forearm. There were a series of small parallel scars there. I wasn't a fool, I knew what they were. He noticed me looking and batted my hand away. Some days he would let me touch him, others I just made him pissed. It usually depended on how much he'd drunk and smoked.

"I asked you a question."

Truth was I didn't like to think about it. I didn't believe that Zedekiah was parking up above us, but right now I had Jordan all to myself. Or as much of him as he would ever allow me to have. Who knows what would happen after the comet came and went?

"Dunno. Maybe I'll come."

Jordan lifted himself up onto his elbow and looked down at me.

"You serious?"

"Ain't got much keeping me here."

Jordan looked troubled. "Look, you can't tell no one, but I heard Carlton and his misses shouting up a storm. Carlton said we're going to have to leave our Earthly bodies behind."

"Like astral projection?" I asked.

I had spent an unsuccessful afternoon trying to spirit walk after reading about it in *The Encyclopedia of The Unexplained*◦– a book I sent away for from the back pages of the *Enquirer* and had treasured until my father found it and threw it out, to prevent me from "filling my head with nonsense."

"What on God's Earth is astral projection?" Jordan laughed, "Sometimes you don't make a lick of sense."

I hated it when he didn't take me seriously, when he acted like I was more than just two years his junior.

"I just wanna go wherever you're going," I said. I had meant it as a bold declaration of love, but it popped out like a babyish whine.

Jordan looked pissed for a moment. I swallowed uncomfortably. The temperature in the little attic changed. He got up and went and sat by the window, sparking up his half smoked joint.

"You should get out of here," he said, his voice cold. "Your mama'll be missing you for dinner."

Three days later Carlton Ray told us exactly how we were going to travel to the comet. Seven people walked out of plantation house

that day and never came back. I wasn't one of them.

Jordan was barely speaking to me. I was more a member of the group than I had ever been, but I had lost my place as his buddy. He kept to himself, running errands for Carlton Ray without complaint. When I tried to hang out with him, he'd be polite and all, but he disappeared first chance he got, leaving me feeling about as welcome as a bad smell.

The Departure Lounge was quiet on the Day of the Ascension. Three more people had left since Carlton Ray's announcement. Thirty-seven of us would ascend to Zedekiah's ship. Some people sat quietly and prayed. The woman with the frown◦– her name was Julie and she had joined the group by walking out on a boyfriend that beat on her◦– sat and cried quietly all day. Carlton's wife paced in the garden and chain-smoked.

Only Carlton Ray himself seemed full of energy. He ordered everyone to stay in the house. Zedekiah would need us to stay in close proximity to each other to pick up our Evolved Vibrations. At about noon, Carlton disappeared into a shed out on the grounds and returned a few minutes later, heaving an industrial can of glyphosate weed killer. It sloshed thickly, like syrup.

Jordan was entrusted to make a trip to the local store and buy orange juice and a pack of Dixie Cups. He asked if he could take me with him. It was the first time he had used my name in days, but Carlton told him I could not be spared. Zedekiah required my presence for navigation purposes.

When he came back with the juice, Jordan was slurring slightly. There was a bottle-shaped bulge in his pant's pocket and his hair smelt of weed.

We watched in absolute silence as Carlton Ray poured a slug of weed killer into each cup of juice. I took mine and followed the others out in the garden.

Carlton toasted the sky. "Zedekiah awaits us! Let's leave these de-evolved bodies and let our souls be airlifted to the comet."

Some people were shaking. Randall, the man with the belly and the comb over slid to his knees, still clutching the cup in front of him. Next to me, Carlton's wife was staring at her drink and shaking her head from side to side.

All I could do was stare at the red cup in Jordan's hand, knowing with total certainty that if he drank his, I would drink mine.

As Jordan raised his cup to his mouth, Carlton's wife screamed and threw her cup across the garden, knocking mine from my hand.

"I won't do it, Carlton, I won't!"

Carlton Ray gripped her arms. She was frozen, staring so hard at

the ground that he had to crouch a little to get the trembling woman to see him.

"Baby doll, don't you trust me? Don't you trust your Carly Ray? Look at me. We are going to fly away from this doomed world and find a new life."

She didn't answer him. She couldn't look at him.

"Don't you love me?" he asked. He cupped her face in his hand and made her look him in the eye.

"Of course I do."

"Don't you trust me?"

"I trust you," she said, eventually.

Carlton Ray offered her his cup. "Then trust me now, trust me in this."

She stared at the cup for a moment and then took it with calmer hands.

"We are going to be together forever," he reassured her, kissing her softly on the cheek.

He then turned to Jordon and told him to go prepare two more cups of Ascension juice. Jordan took the glyphosate into the house. While he was gone, Carlton insisted we all lay down in readiness and regaled us about the interstellar adventure that lay ahead of us.

The last thing I saw was Jordan's face as he handed me a fresh cup of juice. For a second, as his head blocked out the sky above me, he gave the tiniest shrug and then he slugged down his drink and lay down beside me.

I drank down my juice in one. It tasted thick and metallic. I thought I might hurl, but I kept it down. I lay back on the lawn. The soft grass tickled my neck. I slipped my hand into Jordan's. He surprised me by holding mine tightly in return.

Around me people started to moan in pain. It hadn't occurred to me that the ascension might hurt. Jordan made a noise in his throat, his hand started to spasm violently in mine. But even as I started to panic, I felt my body start to relax, and then I didn't remember anything else.

"Son? Son, can you hear me?"

Someone gripped my arm and shook me.

"He's breathing. Get me some oxygen. Bob! Oxygen! Now!"

Something cold clamped down on my face and stale, dusty air billowed into my lungs. I lurched up on my side and coughed my guts up.

It was night. A bright clear moon illuminated the garden. There were electrical lights on stands. A few bodies were in black body bags, most were covered by blankets and sheets.

Jordan's hand was no longer in mine. A body was next to me, covered in a blanket. I recognized Jordan's sneakers sticking out from under the end of it. I tried to get up, to pull the blanket from him, but the paramedic held on to me, pulling me tight against his stiff windbreaker, telling me over and over that I was going to be alright, but I knew I wasn't.

"I was supposed to go," I yelled, "I was supposed to go with them."

I looked up at the night sky, desperately searching for him. But if there was a comet with a tail amongst the stars, I couldn't find it.

I was still crying when my Pa came. They'd told him that I had survived, but he still ran up to me, tears in his eyes, and held onto me.

"I could've lost you," he kept repeating. "I could've lost you."

There was orange juice and a whole heap of whiskey in my stomach, but nothing else. No trace of weed killer. Jordan had never believed that he was going anyplace but the grave. It took my father to explain to me that Jordan hadn't abandoned me◦– he had saved me.

I was the only person to attend his funeral. Just me and an elderly preacher, with barnacle skin and a mean-ass spirit.

"Some people don't the sense they were born with," he muttered as we stood by the grave.

"No, he knew what he was doing."

"Then he committed a mortal sin," the preacher said.

"Jordan didn't do nothing wrong," I told him. "He stayed as long as he could."

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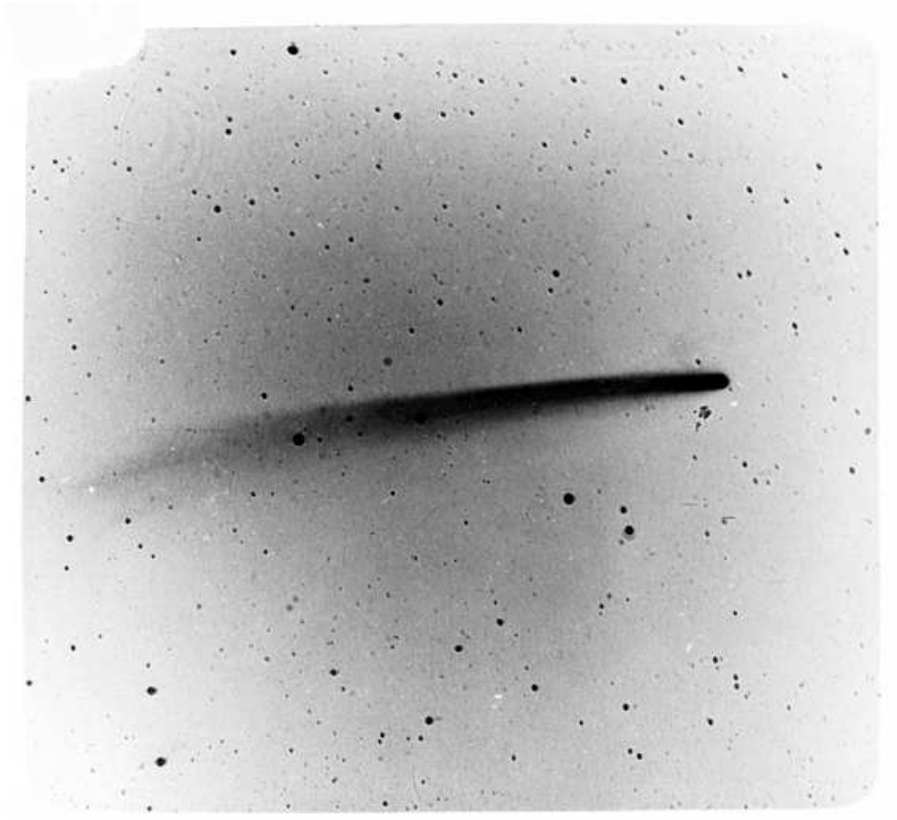

*I looked up at the night sky, desperately searching for him.*

———

*A photographic slide, showing the passage of a comet. (c1900)*

# THE GRAND TOUR
## JAMES SMYTHE

"There's a harvest," Paul says, so we draw straws and I am the unlucky one. We call everything new that's outside a harvest, if it's anomalous. There's always something to salvage.

It is a ten-minute process at this point: actually trying to get myself dressed to go out there. The things we have to consider◦– rads, rays, whatever you call them◦– we haven't got anything to guard against fully, so we've been forced to adapt. We have fragments: old suits from the nuclear plant nearby that we've pulled apart and repurposed. Better that ten of us can share the wealth than one. My headpiece was originally another suit's thigh. I have attached goggles to it, sealing them; split the end so that it stretches over my entire head, my shoulders, even. You try to make sure that there are no gaps of skin showing through. I'm sure that a doctor would tell me that what I was attempting was pointless: that if something out there was going to get to me, it was worming its way in whatever I did. But we don't have a doctor, so.

We've made our own airlock into the basement. There are three doors between us and the outside; two that are meant to be here, another that we brought down and fastened to the walls. We have soldered the gaps where we can, and we've run carpet along the inside of the door seams. Anything extra that we can do. It's a heave: open one door, close it; open the next, close it; then the last, and you are outside, in the sunlight and the glare and the haze. We call it an airlock, but we don't know how tight it is. We've stayed mostly healthy so far.

There's a harvest. That's all I've been told. Could mean anything.

Whatever they've found is three miles away from base camp, so that means I have to cycle. I pick one of the old BMXs, because I'm heading towards roughage, and I need the rugged stuff. There are jumps out there, and rocks. Sometimes you're told to just get on the motorway, head down towards Junction 10 or 9, and then you can take a road cycle, one with thin tires and curved handlebars. But in the roughage, the tyres would be wrecked in seconds, and we're running out of repair kits. No sense in playing games now.

This used to be proper fields; that's what we remember. It gets fuzzier, week by week, so we tell stories about what it used to be like, but they change. You can hear it happen if you pay attention: a yellow becomes a burned golden colour when we tell the stories. We always

try and embellish our own stories, because that makes the now worse. We should be trying to make this better but we don't really have an interest in that. We like dwelling on the past. Now, everything is dismal. But remember when all of this was green? Remember when the fields grew corn and wheat and whatever that beautiful burned golden stuff was? Wasn't that time amazing?

The bike whines under my weight, but that's fine. I am not built for this sort of machine, which I accept. I look lumbering on top of it: hunched over, clenching the rubber-grip handlebars, my back arched, my legs pumping. My knees hit my elbows if I am cycling even slightly up-hill. We used to have a mountain bike, but that went missing. Wasn't a problem: it was too heavy to carry back if something broke. The frame on this one is light, and you can hear echoes through it when stones hit the metal. They make the GPS voice shiver. We were amazed when we discovered that GPS still worked. The satellites are still up there, that's why, we reckon: still spinning, in orbit of us. As long as we charge the VDUs on the solar racks down here, we get a few hours use out of them. Of course, they refer to roads that no longer exist; whole towns and cities, in fact. *You are now entering London*, it might say. No I'm not, I might reply. Maybe I would have been once upon a whenever.

*Prepare to turn left*, the voice says. I have set it to be the voice of a woman called Jane. She has a hint of an Irish accent, or somewhere from the north: Liverpool, Manchester. I've never been up that far north, so I can't tell which. I don't even know if they still talk like that up there. Also, she's pretending that she's posh. It's something that actors used to do, I'm told. I talk back to her, imitating her voice a little. It's playful teasing.

"There is no left," I say to her. "There's only an over. I can veer, though." Through the makeshift helmet, my voice is muffled. I miss the road turning that she wanted me to take because it doesn't exist, and she tries to readjust, finding me in a no-man's land of space on her screen. *Recalculating*, she says, and then, just when she thinks she might have found it, *Recalculating*, again. Where I am now, there were houses once. I can see the lines in the ground, the foundations; the lines of walls and doors and entire lives.

I keep going. There are the fragments of roads, but I avoid them, because here they're too broken up; and the occasional jut of a power cable or telephone mast, sticking out of the ground as if this is a pincushion.

I pedal harder. Doesn't matter how much I sweat. *Go left on the roundabout*, Jane says, but that's when you can hear her accent most: *rind-a-bite*, she says.

I pass a supermarket that I haven't seen before. It's shelled, mostly, but there is a section with a roof, and most of the walls are here, and the doors. We never hold out hope, because there's a chance that anything left is either contaminated or just useless, but we always check. I park next to it and creep inside, and I hear their voices echoing down the aisles before I see them, which is lucky. We are not always so lucky. I back out: I have no wish to fuck my day up like that. No way, no how.

The bike groans again when I get onto it, and Jane threatens to ruin everything when she tells me that she is *Recalculating*, but they don't hear her, I don't think; and I am long gone by the time that they might be coming out to see what that noise was.

The bike's front wheel snags on a rock, and I come off. On the dust, the gravel, I clutch at my knee and I check the suit. That would be a worry, if I had ripped it and cut myself; if there was an open wound for infection to set in. But there isn't. It's dusty and dirty but that's all.

Used to be grazed knees and whatever. Get up, carry on. Other concerns, now. Back onto the bike, and I have lost a few minutes, and my knee hurts, so I pedal slower for a while. They say, don't stay out more than two hours. I can't see me being back in time. I wonder what will happen to me.

The harvest is metal, whatever it is. I can see that from here. And it's on fire, which doesn't bode well. We can't put it out, so we leave it to burn off and then pick through what's left. Some of the people at camp, they think that fire has started to burn hotter than it used to. They blame whatever's in the air now for that: makes it harder to put out, makes it nastier. It'll melt through anything, like white phosphorous. I haven't seen that happening, but I've seen the evidence: the puddles of dull silver that used to be household appliances, now smelted to the ground. When I was a kid, we stuck a coin to the floor in the shopping centre with superglue and watched people try to pick it up. Funniest day. That's what they remind me of.

As I get closer I see the satellite dish, like we've got fastened to the sides of houses, but much larger. It's on a base, cylindrical, covered in these gold reflective panels, glinting the sun back at me, even through the smoke; and there are these giant things sticking out of it, like spider's legs, so long, cracked and bent and twisted on the ground. The whole thing is damaged and battered. It must have fallen from the sky; only explanation. The heat from it comes surging at me in waves. There's a hatch swinging open through the flames, but I cannot see inside it. What if this is a person? What if there's somebody

in there? Maybe they were up in space before, and this is their return.

Ten feet away and I jump off the bike, and I rush towards the fallen harvest. I throw myself at it, hoping to salvage something. I've come this far. I look away from the flames and get close enough that I can feel them, and I reach into the hatch. I am breaking, and I realise how unsecure my suit is: the smoke, whatever's burning here coming into the mask. I breathe it into my lungs, and it covers my skin. Still, I am here now. I fumble, feeling wires and wires and a box, which I grab and tug out. It's black, and hot, and melting. I take it and back off, but it's too hot so I throw it ahead of me. The gloves are on fire, so I peel them off as well. My hands are going to fry, I know, but it's that or burn. We can't deal with fire burns properly, and an infection would kill me. I risk it and drop them behind me, and they are swallowed by their own flames.

The box has broken in front of me. There, in the heat, I pick up the bits from inside it and see what they're worth. Nothing: photographs; bits of paper so charred I can't make them out; and a golden disc as wide as my forearm. It catches the sun and the fire both, and it's somehow cold. Not freezing, but cold. It gives me a shock when I touch it, static; as if it were a pin, and I have pricked myself on it. I tuck it inside my suit, opening the zip to slide it in and make it safe. There's nothing else. In the distance, whatever the satellite-thing was, it is engulfed: the flames rushing out like thick red fingers clawing at the dirt.

Paul went to school here; that's how we knew to find it. The school had tunnels underneath, running all the way through. Emergency tunnels, escape tunnels. He said that they used them during the wars before, when they needed to. That's how old the school is. It was perfect. But there are things we could moan about: how dark it is; how damp; how tight the tunnels are. I am always close to somebody, even though they are so long. You hear things as well: echoes. It's scarier than it need be. Almost all of us are young. We were quickest getting down here, to start. We were lucky. Maybe, because we're younger, we fight off whatever's out there better. Or maybe this is just how it's meant to be: the young outlive the old, that's nature's law.

We're so casual about when we die, now. We have to be. I remember when we first came down here there were twenty-five of us, all from around here. Paul knew about it, and we knew that we had to move quickly. London was gone, and we lived in a commuter town. No chance of our parents coming back, for most of us. Ella's mum came, but she died pretty fast, because she went to look for her son, who in turn had been to look for his father. Ella stayed firm, like

the rest of us. We spent a year waiting to see if anybody else came, but nobody did. When that year was done, we opened the doors and started going out. Twenty-five down to ten in only two and a bit years. Those aren't good odds.

The others have already turned the showers on for me when I get back. I strip under them, and I let the suit and the golden disc lie on the floor at the side. The water is so hot that I am the only one in here. Even the steam'll threaten to strip your skin. Mine is, I can see as I look down, pink and blistering. I was outside for too long. I knew it. The water makes some of the bubbles under my skin burst, and then the skin goes soft and flat and rippled. I touch them, because you have to. This is part of how you heal. You get the badness out, before it can become a part of you. When it gets into you properly, that's when you get truly sick; and that's when they put you out to pasture. What's it that Paul says? When they send you to live on the farm. That's a good way of putting it. I have blisters all over me, more than I have ever had before. It takes so long to burst them all or to pull the top-skin of them off; and to let the water go all over me, into them and through them, and taking the badness out and down the plughole. I use soap when I am done, disinfectant bleach soap, and it stings every part of me. I howl, but, I tell myself, this is better than the alternative. Oh my god is it better than the alternative.

"So what is it?" Paul asks when I'm dried off. My whole body hurts. This is healing. I'm at risk from so many things: infections, disease. I'm wrapped in a towel that has the name of a fancy hotel from when London was still London stamped onto it, only the threads have started pulling, so now it's the Do-c-es-er –otel, which just isn't the same. Paul's taken the golden disc from me, and he's flipping it in his hands. He turns it, over and over. I've seen this before; I remember it. It's at least slightly familiar, this action. He whistles. "This is probably worth something. Must be worth something, I reckon." He throws it into the air and it spins, and he catches it. "Is it actually gold?" He puts it between his teeth and pushes down. I don't know what he thinks that will prove: his bite on the thing.

"What can we do with gold?" I ask. The next stage, post-blisters, is the shivers, and they have come over me. This rings like any other fever: shivers and a temperature, and then sickness and then my muscles will all ache, and it will take me a while before I even begin to feel human again. That's why we draw straws.

He lays it down flat. "Don't know. It was your harvest, anyway. You can work out what you do with it. You could take it to some of the groups in the towns, try and get something for it." These are the

rules: we do the harvest, we share the take with the camp. If it can't be shared, we try and trade it with one of the other settlements we've found. They're all in the same way as us, but they might have use for our junk. But I'm the one who has to do the deal; that way, I'll be providing for the camp. We each feel ownership and good reason for going out there, going through what we do; and the camp gets money to fix itself up, to feed us all, to buy shared provisions. It's like taxes, I'm assured. I'm told that this system used to work perfectly well.

I sleep with the disc under my pillow, and I can feel it during the night when I turn and turn, and my skin scrapes against it. It scratches me, cold against my shoulder.

I am not better when I wake up. I've had post-outside sickness before, so many times, but never like this. We've stopped asking what it's doing to us, because that's counterproductive. Once we went to a hospital and we tried to use their machines but we couldn't get them to work, so it was fingers jabbing at them for hours, and when we got back we were all so much more sick than we were when we left. We lost Joe that day as well, because he was so sick before we even went. He couldn't stand the journey, being out there for that long. You see it at its worst, then: blisters on the eyes. I never take my goggles off out there now, not after seeing that. So I have felt sick before, but never like this. I wonder if this is what it's like when it sets in: when it gets deeper to you. I wonder if I am going to die. I have a paper bucket from a fast-food restaurant to be sick into◦– we took hundreds of them one time when we went out, reasoning that we couldn't wash plates or whatever, so they might come in useful one day◦– and I have to use it as soon as I am awake, vomiting into it. Blood and soot, it looks like.

It's natural to wonder if you're going to die from it, I tell myself. I tell myself that I'll be fine. No question. I hold the bucket and I shudder, and the bucket starts to collapse on the sides from my grip. No question at all.

Paul and the others stand in the doorway and watch me. I catch them; I wonder what they are talking about. No, I know what they are talking about. I'm that sure I know.

I tell them that I am feeling better, which is a lie, but I am worried about the farm that they could send me to. We have a shotgun, which they used to use to hunt rabbits here. I can imagine Paul pulling the trigger, so I tell them that I am feeling better. I stand up, and everything swims. My skin is on fire, and the sweat runs down it. It doesn't soak in; it's as if I am rejecting it. I stumble out of my tunnel. It's colder here, and I can feel that. It's nice. I lean against the

wall and drop the sheet from my shoulders and press against the stone.

The others are standing around a table. There is a record player on it, one of the really old ones. I've never seen one used like that; with a long brass horn sticking out of the side. The golden disc from the harvest is on top of it. I see it, now: it's a record. Of course it's a record.

Paul grins. "I washed it, while you were sick. There's little grooves all around it, see?" I can, if I squint. My eyes feel wrong, but I don't say anything. I stay back, in the darkness, so that they can't see how bad I really am. "So I went and got this from upstairs, what used to be the music rooms. I remembered that one of them survived."

There are candles around the record player on the table, as if this is some sort of sacrifice. All ten of us are here, watching; Paul runs the plug on it to an extension cable, and Ella gets onto the treadmill and starts running. We wait for the lights to turn green. Usually takes five minutes; now, that seems like forever. I shut my eyes. I can see something in my eyelids: where the blood is pulsing, red and black. It makes me feel dizzy.

"And we are go," Paul says. He picks up the arm from the player and puts the tip◦– the needle, I remember, that's what it's called◦– onto the disc. It spins, and there's a crackle, and we expect noise. I shut my eyes and wait, again, but then it comes, as a wave. It steals us, and we are floating. I open my eyes: we are pressed to the walls, hoisted up. Paul is screaming but I cannot hear him. Everything is distorted. The record is spinning, going even faster than the player. The player tears itself apart, pulling and yanking and distorting itself as the record whirs. Lumps of metal and wood and plastic fly off, and the player is held on the table as if a tiny tornado is wrapped around it. It glows; it flashes white.

We are not where we were. We are pinned to these walls, but they are not here. I cannot describe who is with us, because they are like ghosts, but made of something, like sound or light, but not either of those things. It hurts to even think of them; to imagine them. They find the thing I saw in the fields, but it's different. It's clean. It's so old, still, but clean. It is a spacecraft where it should not be. Printed on the side, it reads Voyager: its name.

The things that I cannot explain find it, caught in a swirl of liquids and gases, and they drag it to where they live. They crack it open and they find the record. It looks the same. They do not know what it is, and they move around and through it, and they try to decipher it. There is something inside it, an isotope that they cannot understand, and it hurts them. It mingles with them, with their atoms,

because this is who they are, what they are made of, and they cannot adapt to it. They degrade. I try to scream at them, and they notice me, but this is not now. This is another time, and they keep trying with the disc. They are dying: whatever is inside this golden record is killing them. They are sick, and they are changing. One of them manages to channel the sound from the record, garbled and distorted through a sad approximation of a mouth: *Hello from the children of planet Earth*. They know where it came from; who sent this, to kill them. Then they stop dying: they have found a way to take this in, to make it a part of themselves. They were threatened and they survive. They make a decision. They rebuild the spacecraft. They alter it. They send it back to us.

I hear Paul screaming. “The fuck was that?” he yells. “Seriously, now, what the fuck happened there?” I open my eyes, and we are all on the floor. Something is wrong with me: I can barely move. I watch Paul pushing himself to his feet. I want to tell him to stop, but I know what he’s going to do. The record is on the table, and he picks it up and holds it between his hands, and bends it until it snaps. “Oh my god what was that?” he says. Ella and Lars and Rickey and the others are still on the floor as well, but they pick themselves up, and they ask each other if they are okay. They check, to see. They can move. They come to me eventually, and they feel my forehead. I am burning up. They can see how sick I am.

I am worse than I thought I was. I must have been out there for far, far too long. I must have been.

The others drag me to my bed, and they lay me down. Paul can’t get over what we saw, saying over and over how he doesn’t believe it, how it can’t be real, and it’s only this that keeps me grounded: that all of us were in there. Otherwise I might have thought that it was a hallucination, or a vision, or a dream.

They all remark that they have never seen anybody as sick as I am. I think it’s only the distraction of the record’s vision that stops them putting me out of my misery, I really do.

If I had to guess, I would swear that I am about to die. I wake up, and I feel on the cusp of it; and I breathe, sure that it will be my last, because it’s as if I can see it in front of me: the haze of my life, leaving my body.

Or maybe it is just me getting used to this: somehow taking the sickness in. Eventually, that’s how we overcome anything, I suppose. I breathe, and gasp, and it as if air isn’t what I need, so I choke; but then it’s back. Oxygen saves me, and I take it in, and sleep once more.

When I wake up I don't know how long I have been asleep for. I climb out my bed find the bottles of water, and I drink it, three bottles, but it all makes me sick. It all makes me feel worse, for some reason, and I cannot keep it in. I cannot even bear it touching me. I get on the floor and lurch, and push it all back out, soaking the floor and myself. I sob, because I am so thirsty.

My foot touches a part of the record: still golden, still cold to the touch, even through my fever. I pick it up, and I press it to my chest. It's like water over a fire: I am sure that I can hear it sizzling.

I sleep with it held there: comforting to me, and making me feel better. Dragging me back towards who I am.

In the morning, I feel good: the fever broken, my body no longer clammy, my head no longer swimming. I look at myself in the mirrors. All scars of the blisters and pustules have gone. It's a miracle. It's when they set in that you're lost. An early warning system. Paul stands and watches while I turn the showers on, and I ask him if he's thought any more about what we saw. They run cold, because that's better. I can't take the heat now.

"I don't care what it is," he says. "I don't care."

"But it was important," I tell him. "I think we sent it up there. We hurt them."

"There's no Them," Paul tells me. "We had a◦– I don't know◦– a mass hallucination. That sort of thing happens when you're exposed too long."

"It was real," I say. "Don't you want to know what we saw?" I switch the showers off, and he throws me a towel. I put it to one side.

"No," he says. "I don't want to know a thing. We're okay, right?"

"Right."

"So, that's fine. You need anything? We're doing a run."

"It's not your turn," I say. "The record didn't get us anything, so I still have to contribute. Besides, I saw a Tesco we haven't tapped. I can find it again. I'll go tomorrow morning."

"Fine," he says. "Your funeral." Strange phrase, now, because we don't even bury our dead. We leave the bodies outside. They're decayed within a few hours. Paul walks off, and I finish getting dressed. My skin is totally dry as I pull on my trousers and my shirt, and I find myself wondering how that happened, because my towel is still on the side, as I haven't used it yet.

As I'm getting dressed I notice that there is something in my eye. I get close, and lean in, and I stare, and the headache hits me, a shiv in my head. It looks, for a second, as if my eye has dissolved; passed into nothingness. The black part, the white part, the colour: all a mess, swirled together. It looks like a galaxy or something. I blink and it's

gone, and the pain with it.

I stare again, willing it to happen once more.

The others are all still asleep as I watch the sun come up through the outer door. As soon as it's light enough I put my suit back on, and my helmet, and I take a water bottle from the stash, and I get my bike. Jane asks where we're going, and I use my last destination. It's easiest that way: the supermarket was on that road, and Jane is nothing if not predictable. She never changes her routes. I pedal. I am not sweating, not even at all, because I feel cold. In myself, if I touch my skin, it feels cold. Like metal, almost. There is a wind, it feels like, but I can't see it. Everything else is so still.

*Prepare to turn left*, Jane says, but I ignore her. I stay forward, like I did before, over the rubble and the remains and the solid ground that looks like it must have done years ago when somebody last bothered to plough it, nothing here to upset it or move it or anything, not even any animals to dig in. There are some somewhere, that's the rumour. Some of them went underground; maybe others are ruling the cities somewhere. Taking this back for themselves.

I see the supermarket up ahead. I know I have to go there to pillage it, and I have to face whatever's inside; but I don't, not yet. I keep pedaling. I haven't far to go, and I have never ridden so fast in my life.

It is in the field where I left it. It's not burning any more, which is a relief. I pass the black box and leave the bike there. It's how it looked in what the record played for us; I can see that now. The same shape, mostly.

It's nearly my height, lying on its side. I put my hand on it. It courses through me: that feeling of a rising illness, of a sway. I have been out here for too long, I tell myself, but then I know that this is a different feeling. My hand feels numb where it rests on the hull, dead with pins and needles. I peel my glove off and look at it, trying to steady myself, and it dissipates. As I watch it, it seems to pick itself apart. I can see into it; through it, even. I can see millions of tiny parts, glimmering fragments. It's like staring at a screen up close and being able to see the pixels. It is like mist, or fog, or smoke. My hand passes into the ship. It passes back. I gasp, and I scream, because there is something very wrong with me.

I scramble backwards, to the floor, to the grit and stones, and I stare as my hand pulses: from this vague approximation to something resembling normality. I turn and run, and I grab the bike. The hand still works. When I want it to, it is still my hand. Nothing more, nothing less. *Turn around when possible,* Jane says, but I ignore her,

and I leap onto it, and I start pedaling. I am going, furiously, but then something goes wrong, and it feels as if my suit has caught on the gears; but when I look down, the bottom half of my leg is not there. It is gone, and the fabric dangles, and my shoe has fallen off behind us. We fall, the bike and I, and I push away from the frame and wheels, so I can see myself completely. I pull my trousers off, and it feels as if my leg is still there. They say this, in amputees; and they call it a phantom limb. When my bottom half is out of the trousers, I see my leg, or what remains. Molecules, something, move around the space. They swirl. This is my leg, now: innumerable tiny pieces, every part that makes up my being. I stare at my leg and it comes back. It comes back to me, and it looks as it always did.

There, lying in the road, I form and reform; and I change. I watch this spread up my leg, a rash that's inside me, that makes me who I am.

I feel so, so vague.

I take my clothes off. I don't need them, or I can't use them. I look the same as I always did: the same colour of skin, the same body hair, the same everything. I smell the same. I walk, then, and it's the same. The same logic to make these parts move.

And then I stop, and I do not concentrate, and I am not my body any more. I am something else. I am everything.

*Turn around when possible,* Jane says.

I do not know how I got here, to the supermarket, but I am outside it. I feel my body reconstitute itself, pulling itself back into its form.

I think about magnets: about holding them near each other, and feeling that tug as they want to be back together.

I need supplies. I had a shopping list. I cling to this. I walk through the doors, not needing to open them. My body gusts through and then reforms itself. I look to see if there are any water bottles, but there are none. I walk to medicines. There's a noise from the other end: the people that I heard here before. Ravagers or scavengers or whatever they call themselves. They've lived out here too long, and they get sick and diseased, and they wait for death, and then they get used to it, some of them. They have nothing to lose in trying.

One of them runs at me. He passes through me, and he falls to the floor. He howls at me, and I see that even his tongue is pustules and mess. I reach out and touch him, and he begins to burn up. He sweats, and the pustules burst, and he lies there. He's not dead, I don't think, because his eyes are open, and they are swirling, miniature galaxies.

The countryside looks like another planet entirely: as if we could

roll out the camera crews and start filming, and we could pretend it was Pluto or Jupiter or wherever, somewhere else that we've never been, that we never even dreamed we could go. I have a name on the tip of my tongue, but I cannot say it. I cannot say the word, because it's not in my language. I rearrange myself◦– my throat, my mouth, the words◦– and I speak it. It sounds like nothing else. It is indescribable.

I don't need to open the airlock. We are not as secure as we thought; and I feel the molecules of the doors as they pass through me. It's as if I am learning from them. Inside, I feel thirsty. I drink water from a bottle, and I let it sink into me. Yesterday◦– and I can feel it now◦– I was rejecting it. I couldn't assimilate it. Now, I can. Now, the liquid can be a part of me, and the walls and the wind. I pour the rest of the water over my head. It feel it sink in, and I am already dry. I go to the mirror, and when I look, it is as if I am not even there. I come back. I leave. I can be any part of this room. I come back, and I examine myself. It's curious: how alien this body feels already.

Paul comes in and stares at me. "When did you get back?" he asks. "Jesus, put some clothes on." He picks up the towel that I had left there and throws it at me again, only this time it passes through me. I feel myself come apart and then reform. I know what the towel is made up of, now: its fibers, its molecular structure. Paul doesn't say anything else, then. He stares, and he clutches at his head, because to look at me causes him such pain when I am like this, and he turns and he runs. He makes this noise, like I've never heard. I wonder if now, somehow, my ears are different? If I hear noise in a different way?

I chase him, and I hold him. I tell him it will be alright. This is not like with the ones in the supermarket: this is different. I want this to be gentle for him: a coalescence. I pass into him. My self finds the holes in his skin and I pass into them. I take him; I make him a part of me, or of us. His clothes fall to the floor, and his body; or what it is now.

Is it still a body if there is no form? If it is just a part of everything?

The others do not hear me, but they fall the same. I touch Ella first, and she joins with me. She doesn't even seem that surprised. They try to talk, but I am too quick for them, and I am learning how to make them turn faster and faster. I tell them, when they are with me, that I am saving them. That what I have done, it's for the best of us all. We needed to find a way to survive this. The odds were too slim.

This is a gift, not a weapon. It is not a retaliation.

The remains of the disc are here. I take it into me, or me into it. I can feel the others in here: all of their component parts. They set themselves in here. We set ourselves. I spin it inside what I now am. *Hello from the children of planet Earth*. I remember that happening, once. I remember everything, now: where we were. How we were. How we dredged the craft from the atmosphere and saved it. How excited we had been; the thought of what it could mean. We prayed that it was another race, come from the stars: first contact. But it ruined us; we were forced to adapt.

I spit them out, the others: my parts fragmenting, my being divided. So many millions of pieces. They stand around me, and it doesn't hurt any more to look at them. I remember being me, still. I remember it all. What happened.

I step outside and I let myself be taken on the wind. I dissipate.

I wonder how far I will be carried; how far I can go.

# CONTRIBUTORS

Archie Black won second place in a writing contest when she was twelve years old. Her mother is still very proud.

So far this year, David Bryher has written about ghosts, knitting, pigs, Daleks, ballroom dancing and Cleopatra. Not all at once.

S.L. Grey is a collaboration between Sarah Lotz and Louis Greenberg. Based in Cape Town, Sarah is a novelist and screenwriter and die-hard zombie fanatic. She writes crime novels and thrillers under her own name, and as Lily Herne she and her daughter Savannah Lotz write the Deadlands series of zombie novels for young adults. Louis is a Johannesburg-based fiction writer and editor. He was a bookseller for several years, and has a Master's degree in vampire fiction and a doctorate on the post-religious apocalyptic fiction of Douglas Coupland.

S.L.'s first novel, *The Mall*, was published by Corvus in 2011 and *The Ward* came out in 2012. *The New Girl*, the last of their Downside novels, will come out in October 2013. They have also published a handful of short stories.

Jon Courtenay Grimwood has written for the *Guardian*, *The Times*, the *Telegraph* and the *Independent*. As Jon Courtenay Grimwood he's written a number of award-winning alternate history and sf novels. His first purely literary novel, *The Last Banquet*, as Jonathan Grimwood, is published by Canongate in July. *Felaheen*, the third of his novels featuring Asraf Bey, a half-Berber detective, won the BSFA Award for Best Novel. So did *End of the World Blues*, about a British sniper on the run from Iraq and running an Irish bar in Tokyo. His novels have been shortlisted for numerous other awards.

His work is published in French, German, Spanish, Italian, Polish, Czech, Hungarian, Russian, Turkish, Japanese, Danish, Finnish, Dutch and American, among others.

Maria Dahvana Headley is the Nebula-nominated author of the dark fantasy/alternate history novel *Queen of Kings*, as well as the internationally bestselling memoir *The Year of Yes*. Her short fiction has appeared in *Lightspeed, Subterranean, Glitter & Mayhem* and more, and in the 2013 editions of Rich Horton's *The Year's Best Fantasy & Science Fiction*, and Paula Guran's *The Year's Best Dark Fantasy & Horror*. Most recently, with Neil Gaiman, she co-edited the young-adult monster anthology *Unnatural Creatures*, to benefit 826DC. Find

her on Twitter at @mariadahvana, or on the web at www.mariadahvanaheadley.com

Joey Hi-Fi is the alter-ego of award-winning illustrator and designer, Dale Halvorsen. Operating from his secret underground lair in Cape Town, South Africa, he enjoys working on a variety of projects from book covers to editorial illustration, comics, t-shirts and packaging.

Dale has won a British Science Fiction Association award and the Wojtek Siudmak Award at the Grand Prix de l'Imaginaire for his work on the cover of Lauren Beukes' *Zoo City*. Recent commissions include work for the Science Museum, HarperCollins and the *Mail & Guardian* newspaper as well as new book covers for Chuck Wendig, Lauren Beukes, Imraan Coovadia, Simon Morden, Luke Rhinehart and Richard de Nooy.

Kameron Hurley is an award-winning, Nebula-nominated writer currently living in Ohio. She is the author of the Bel Dame Apocrypha, comprising the books *God's War, Infidel* and *Rapture*. Her short fiction has appeared in venues such as *Strange Horizons* and *EscapePod*. Find out about her latest work at kameronhurley.com.

Matt Jones has written for several BBC drama series including *Doctor Who, Torchwood* and *Dirk Gently*. He is the author of two novels, several short stories and has been a columnist for *Doctor Who Magazine* and *Gay Times*. He was a television producer for over a decade, producing *Shameless* for its first four series, as well as crossing the Atlantic to produce the American version of *Skins* for MTV. He lives in Clapham and writes full time.

Marek Kukula is Public Astronomer at the Royal Observatory Greenwich. Marek completed his doctorate in Radio Astronomy at Jodrell Bank Observatory in Cheshire and carried out research into black holes and distant galaxies at a variety of astronomy centres, including the University of Edinburgh and the Space Telescope Science Institute in Baltimore, home of the NASA/ESA Hubble Space Telescope. As Public Astronomer at the Royal Observatory Greenwich his role is to ensure that the Observatory's exhibitions, planetarium shows and events programme accurately reflect the latest findings in astronomy and to help explain new discoveries in space to the public and media.

Gateshead-based Simon Morden's writing career includes an eclectic mix of short stories, novellas and novels which blend science

fiction, fantasy and horror, a five-year stint as an editor for the British Science Fiction Association, a judge for the Arthur C. Clarke Awards, and regular speaking engagements at the Greenbelt arts festival.

The first three Petrovitch books (*Equations of Life, Theories of Flight, Degrees of Freedom*) were published in three months of each other in 2011, and collectively won the Philip K. Dick Award. The fourth in the series, *The Curve of the Earth*, was released in March 2013, and *Arcanum*, a doorstep-sized alternate history set a millennium after the fall of Rome, is set to follow in November. Yes, he is making up for lost time.

Sophia McDougall was supposed to be an Oxford English literature academic before running away in 2002 to write fiction. She is the author of the bestselling Romanitas trilogy (published by Orion/ Gollancz and twice shortlisted for the Sidewise Award for Alternate History), set in a contemporary world where the Roman Empire never fell. Her short stories have been published by Jurassic London, Solaris and NewCon. Her first novel for children, *Mars Evacuees*, will be published by Egmont and Harper Collins US in 2014. She also creates digital art and mentors aspiring writers.

Mark Charan Newton has worked as a bookseller and later as an editor, first for a media tie-in imprint and then publishing science fiction and fantasy. He has written for a variety of non-fiction publications including *The Ecologist* and *The Huffington Post*, as well as science fiction for BBC Radio 4. Somewhere along the way he became obsessed with ancient Rome, and so apologises in advance for abusing old cultures in his story. He currently lives and works in Nottingham and you can find him online at markcnewton.com.

Alastair Reynolds was born in Barry, South Wales, in 1966. He studied at Newcastle and St Andrews Universities and has a Ph.D. in astronomy. He gave up working as an astrophysicist for the European Space Agency to become a full-time writer. *Revelation Space* and *Pushing Ice* were shortlisted for the Arthur C. Clarke Award; *Revelation Space, Absolution Gap, Diamond Dogs* and *Century Rain* were shortlisted for the British Science Fiction Award and *Chasm City* won the British Science Fiction Award.

Adam Roberts was born two-thirds of the way through the last century. He is a writer of science fiction, and a professor of nineteenth-century literature, and he lives a little way west of London. His most recent novels are *By Light Alone* (Gollancz) and *Jack Glass* (Gollancz).

Esther Saxey is a Uranian, or possibly a Urningin, or even a Uranodioningin. Definitely an amateur queer theorist living in London.

James Smythe is the author of *The Testimony, The Explorer* and *The Machine* (HarperCollins), among other things. He has written narratives for video games and teaches Creative Writing. He can be found on twitter @jpsmythe.

E. J. Swift's debut novel *Osiris* is published by Night Shade Books and forthcoming from Del Rey UK, and is the first in a trilogy: The Osiris Project. Her short story "The Complex", published by *Interzone*, will be included in the anthology *The Best British Fantasy 2013*. When not writing, she is kept busy as a slave to cats and an afficionado of the trapeze.

Lavie Tidhar is the World Fantasy Award winning author of *Osama*, of *The Bookman Histories* trilogy and many other works. He won the British Fantasy Award for Best Novella for *Gorel & The Pot-Bellied God*, and is the winner of a BSFA and a Kitschies awards for his non-fiction. He grew up on a kibbutz in Israel and in South Africa but currently resides in London.

Kaaron Warren is an award-winning author with seven works of fiction in print. Her three short story collections are *The Grinding House, The Glass Woman, Dead Sea Fruit* and *Through Splintered*. Her novels are *Slights, Walking the Tree* and *Mistification*. She's lived in Melbourne, Sydney and Fiji and now lives in Canberra, Australia, with her family.

# ACKNOWLEDGEMENTS

The editors would like to thank the many, many people, earthbound and celestial, who made this possible, including Lauren Beukes, Rebecca Nuotio, China Miéville, Joey Hi-Fi, Laika, Doctor Richard Kron and the guidance counselor that once told Anne she wasn't cut out for astrophysics.

Above all, we would like to thank Emma McLean and Marek Kukula. Without their hard work, patience and imagination, this would never would have been possible.

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First published 2013 by Jurassic London
www.pandemonium-fiction.com
978-0-9571696-4-7 (Limited Edition)
978-0-9571696-9-2 (Trade Paperback)
978-0-9571696-1-6- (Paperback)
978-0-9571696-5-4 (eBook)
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